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(2003) *The Assam Fever*. Wellcome History. pp. 1-24. ISSN 1477-4860

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Wellcome History

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The Assam Fever



The Assam Fever

In medical journalism and common parlance alike, *kala-azar* or visceral leishmaniasis (black water fever) continues to be referred as 'the Assam Fever'. Bodhisattva Kar examines how this silent traffic of images was allowed in the composite medical memory over more than a century, and how the name of Assam, a frontier province of India, was crafted onto a disease.

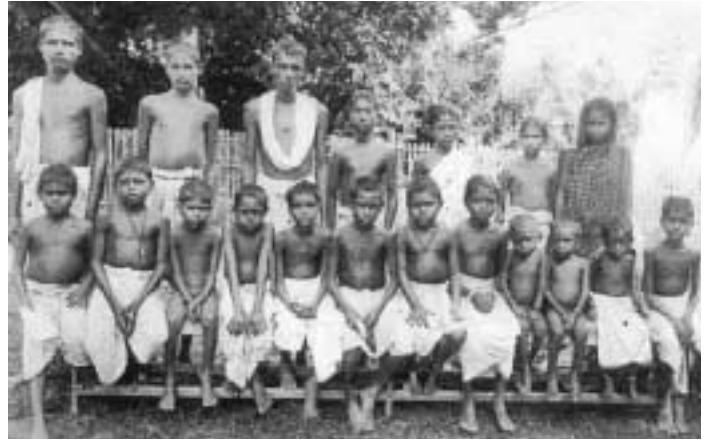
The news of a *kala-azar* epidemic in Assam in the 1880s and 1890s directed entrenched and undefined anxieties about the *terra incognita* into the metropolitan imaginary. The sprawling series of medical topographies that followed the first Burma War continued to feed images of a perilous climate enveloping the entire North Eastern frontier. And a state troubled by a huge European mortality on the least-mapped frontier took little care to distinguish between the climates of Arakan, Ava and Assam in the initial years. It was primarily through the association of premature deaths of many European officers and soldiers in these years of nervous expeditions and insecure administration that – to repeat one of the first medical topographers of the province – “Assam was saddled with a name, which even to this day clings to it”. Everywhere in the province European nostrils detected “noxious exhalations” and European eyes spotted “conditions most favourable to the decomposition of animal and vegetable matter”. With its abundant forests, extensive marshes, alluvial soil and humid climate, Assam became something of a textbook example of a miasmatic country. But where Western medicine saw the possibility of effecting a change were, as Dr A McLean, medical-in-charge of Gauhati, said in 1853, “the general habits and modes of life of people”.

From the middle of the century, the colonial authorities, somewhat upset by the revenue crisis in Assam, were keen on clearing the jungles for bringing lands under cultivation. It clearly received considerable support from the medical theory in this regard. Cultivation nearly became an organizing trope for reclaiming wastelands, restoring lost energy of the people and reforming the climate. Uncultivated lands, a native system of house ventilation, local cuisine, choked up drains, stagnated tanks, ill-maintained roads, opium eating, burial procedures, ‘indiscriminate bathing’, scatological habits, depressing passions of the Assamese: reasons of every sort that seemingly emphasized the peculiarity of the country were mixed in the etiological pot to gradually shift the focus of reform from the ‘natural’ to the ‘cultural’, from the innate miasmatic quality of the soil to the practices of uncivilized life.

A strange epidemic

In 1882, coinciding with a considerable expansion in the registration system in Assam, a strange ‘fever’ epidemic was reported from Tura, the headquarters of the Garo Hills district:

It begins with a high temperature, several pains in the head and body, loss of appetite, and other symptoms of general febrile conditions; fever, sometimes of an aguish form and sometimes fever without remission for many days together.



Above: *Kala-azar* slowly spread from the Garo Hills to the districts of Goalpara and Kamrup.

The spleen and the liver enlarge, the skin becomes gradually darkened, and in advanced cases there often is haemorrhage from the nose and gums, oedema of the feet of general dropsy, is likewise common, and life ends by a combination of disordered functions known as malarial cachexy.

We must keep in mind that the grip of the category ‘fevers’ increasingly tightened over the medical imagination (on average, 54.54 per cent of total deaths in Assam between 1881 and 1885 were classed as such), despite the practitioners’ regular complaints about the functional inadequacy of this undifferentiated category and the Sanitary Commissioner’s repeated calls for rearing “a superstructure of improved classification”.

For the two decades following the emergence of *kala-azar* in the Western register, the foundational question for the related debates and discussions was whether it was a separate disease or a mere local name of ‘malaria’. Initially, the logic of miasma continued to command much authority. The Sanitary Commissioner concluded in the 1882 report, “*kala-azar* is a cachexia produced by malarial fever, deriving its peculiar characteristics from the nature of the region where it prevails.” But, the disease slowly moved out of the Garo Hills and spread to the districts of Goalpara and Kamrup. The mortality (41.66 per thousand in 1883) was too alarming to leave the nature of the disease to speculation. Nosology, a system of disease description that made it appear that all illnesses fitted within a definitive network of disease classification, became less a pastime for the medical profession than an issue of grave concern to the colonial state.

Investigation

The primary interest of the state was, predictably, to make out a particular disease’s relative propensity to epidemicization. But, in Assam the nosological question was entwined with more specific plantation interests. The state had a clearly hierarchized health agenda in the province. The Chief Commissioner, who prided himself in saying that “probably there is no province in India where sanitary regulations are more strictly enforced than they are in regard to the immigrant population

Left: A *kala-azar* patient.



of Assam”, unambiguously refused to take “part or lot in any measures” for introducing sanitary regulations in the “remote villages inhabited by an ignorant peasantry”. It is this prioritization that enframed nosological research. When, in 1888, the Sanitary Commissioner of Assam requested “a special officer of tried scientific attainments” to come to Assam to enquire into the causes and nature of the *kala-azar*, the latter made it explicit that the need of the hour was not an examination of *kala-azar* raging among the hill tribes and the plains peasantry, but an investigation “in further detail [of] the causes of the anaemia which prevails so extensively amongst coolies on the tea gardens”. However, the Commissioner said in the last line of his letter, the scientific observer of ‘coolies’ anaemia or *beri-beri* – causing much havoc in the tea gardens of Upper Assam – “may well be employed to enquire into the *kala-azar* also”.

It was in this structural context that the discursive careers of two diseases became entangled for a while. Dr G M Giles, the much-awaited scientific observer, submitted his final report in October 1890 claiming that *kala-azar* and *beri-beri* were two different names for the same disease, namely anchylostomiasis. In Giles’s report it was principally the cultural backwardness of the Assamese that had to bear the cross of susceptibility to *kala-azar*. Challenging the blanket application of miasmatic theory, Giles, though with an uneasiness, proposed the utility of the natives’ testimony in the diagnosis. One might almost say that it was within the context of a medico-ethnography that the compromises of the epistemic totality of medical theory and scattered local bedside experiences were being fashioned in the colony. Giles solved the problem of epidemicization (since infection was termed as ‘indirect’ in anchylostomiasis) by introducing an interesting ‘cultural’ twist in the textbook argument. Anchylostomiasis, he said, “is one of the most infectious of diseases” for “people in a low grade of civilization” while the danger was “almost *nil* for Europeans, even in India”.

The renewed emphasis on popular testimony and personal experience by the medico-ethnographers entailed a satisfactory explanation of the nomenclature *kala-azar* (literally, ‘black fever’). The argument is worth studying: the disease in the colony is not a deviation from the normal, rather here it reveals the ‘natural’, becomes instrumental in return to the origin, functions as a cipher for the truth of native identity. The power of medico-ethnography was such that even those who did not agree with the explanations of Giles continued to engage with this issue, and every major subsequent contributor to the debate almost unflinchingly expressed his opinion on the question. And since the ‘darkening’ was not an unvarying symptom of the disease, the mystery of ‘blackness’ remained open to a productive play of race, dirt and infection. Another popular name for the disease was *sarkari bimari* (literally, ‘government disease’), which indicated that despite the official disclaimers initial indigenous perceptions of the disease unmistakably attached it with the colonial encroachment.

Questions of origin

The question whether the disease was ‘indigenous’ or ‘imported’ was also crucial for the colonial state as it involved issues about labour immigration into the plantation province. The query, not to put too fine a point on it, was whether the ‘Assam climate’ ravaged the tea gardens, or whether the coolies wrecked the Assam ecology. It should not be, then, a surprise that the most scathing critique of Giles came from a non-medical bureaucrat, P G Melitus, the Secretary to the Chief Commissioner of Assam. Melitus severely took Giles to task for altogether failing “to

appreciate the influence of climate, that is to say, of change of climate or acclimatization, on the immigrant sickness and mortality”. It did not require coolies, said Melitus, to introduce an intense fever epidemic to a malarious country like Assam. But that was what exactly Giles and the advocates of the anchylostomiasis theory were implying.

For example, Dr Thornhill, a Gilesian, blatantly declared, “[*kala-azar* in Assam] is an instance of the occurrence and spread of anchylostomiasis following on the introduction of the Indian coolie in large numbers into a country where apparently these cases, characterized by extreme anaemia and dropsy, were before his advent unknown.” Compare this to Leonard Rogers, who insisted that the disease was nothing more than a communicable malarial fever. In case one smells a crass functionalism here in my argument, I must hasten to add that I am not proposing that the economic *contexts* of the colonial rule simply surfaced in the tropical medical *texts*. But in order to appreciate why Rogers was deputed to a second enquiry into the nature and causes of *kala-azar* within less than a decade’s time after Giles had published his report, or – more generally – to map the extent of the framework of interest within which presumably dispassionate studies of the disease were to be carried out, it is crucial to recognize that amidst such a nosological confusion the successful career of the contending theories depended more on a sympathetic correspondence to the statist concerns involved than on an epistemic break in the received wisdom.

Despite considerable unease among many doctors, the idea of ‘communicable malaria’ – combining both the medico-ethnographic insight on epidemicization and the still older hygienic investment in spatial peculiarity – caught the official imagination. While Giles jeered at Rogers saying that the latter “like a medical Alexander, cuts his Gordian knot by announcing that Assamese malaria is infectious”, Rogers was soon supported by no less an authority than Ronald Ross who functioned as the one-person *Kala-azar* Commission of 1899. Although Ross did not frontally take on the miasmatic assumptions of Rogers, he was not quite persuaded by the ‘passage through soil’ theory. However, it was on the hypothesis that *kala-azar* was a ‘site infection’ and therefore soil was the reservoir of the germs that Rogers detailed down his measures for the sanitary arrangements of the tea gardens. His proposals of imposing a tighter surveillance over the coolies and stopping the affected villagers to emigrate evidently appealed to the anxiety of the state and these measures were immediately put into effect.



Above: Dr G M Giles.

However, that should not mean that Rogers went unchallenged. The theory of ‘communicable malaria’ had to face criticisms from both the Gilesians and the new theorists like C A Bentley who claimed *kala-azar* was a form of the Malta Fever. But even without going into the details of the debate, it suffices to say here that after the critical intervention of

Melitus, the medical discourse on *kala-azar* – if it had to win a patronage from the colonial state – could not be but attentive to the question of labour immigration and tea interest. In October 1902, before the debate could be conclusively exhausted, there appeared a small insertion in the ‘Letters to the Editor’ column of the *Indian Medical Gazette*, signed by one C Donovan, which declared that some parasites – “genus *Protozoa*, species new” – had been discovered by the writer in a case of peculiar fever in the Government General Hospital at Madras whose symptoms “tally very closely with those of *kala-azar*”. Donovan requested the Medical Officers in the *kala-azar* endemic areas for samples. With Leishman and Donovan’s almost contemporaneous discoveries, we are told, the nosological and etiological bewilderment about *kala-azar* came to an end. But the subsequent developments were not as smooth as textbook medical histories would like them to be. Although Rogers accepted the validity of the new discovery, he insisted, “the finding of a form of a protozoa differing from the malarial parasite will not per se throw much light on the matter”. He was right, though in a peculiar way. His proposed measures continued in Assam at least until the early 1920s. Even in 1924, T C McCombie, the officer in charge of

the preventive operations, approvingly quoted the old miasmatic texts of Rogers and admitted them to be the basis of sanitary arrangements.

It will be only partially true to say that the image of Assam as a ‘land of *kala-azar*’ did not really desert the colonial mind even after the establishment of *Leishmania donovani*’s etiological role within the medical circle. In the growing nationalist parlance, the trope continued to be employed both in the moments of crisis – as during the 1905 anti-Partition movement in Bengal, when the prevalence of *kala-azar* was cited as one of the practical reasons against Eastern Bengal’s administrative grouping with Assam – as well as in the moments of triumph – as during the 1923 *kala-azar* antidote discovery of Dr U N Brahmachari, when the Bengali press almost celebrated a modern nation’s victory over its primitive margins. The history of the medical debates around *kala-azar* might not be all that unconnected with the pathologies of the nation-space.

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WORK IN PROGRESS

Achintya Kumar Dutta

A social history of an epidemic: Kala-azar in colonial Northeastern India, 1875–1947



Above left: Watercolour drawing of cancrum oris in a case of *kala-azar*, c.1921.



Above right: Drawing of the parasites of the tropical diseases *kala-azar* and oriental sore.

A social history of a *kala-azar* epidemic allows insights into key areas of Western medicine in British India – its inception, development and effects. My interest in this subject grew while I was studying malaria and its effects on the economy of a Bengal district – Burdwan – in connection with my doctoral work. *Kala-azar* also appeared in this context and it was mistaken as malaria. *Kala-azar* became rampant in north-east India and like malaria affected population adversely. The worst affected areas were Assam, Bengal and Bihar.

What I want to explore in this study are: (1) the developing concept of British public health and hygiene and its impact on Indian society; (2) Britain’s growing medical knowledge and research and its reflections in India; (3) the contribution of Western medicine to the eradication and prevention of this disease in Assam; and (4) the popular response to Western medicine. I expect this research to provide information about the disease and its treatment, and also throw light on the medical research in England and India. Finally, such a

study of epidemic disease would review the efficacy of Western and Indian drugs and also of the state-sponsored measures that were deployed to tackle the disease. At the same time I would explore the reaction and response of Indian people to Western medicine.

A great deal of the source material on this subject is available in London, in particular at the British Library, the Wellcome Trust Library for the History and Understanding of Medicine, and the library of the London School of Hygiene and Tropical Medicine. I have been fortunate

enough to trawl through these collections with the assistance of a Commonwealth Fellowship, which was held at the School of Oriental and African Studies in London. However, I would be delighted if anyone could provide me with information on other archival/library holdings that I may have missed.

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Tracing the knowledge of psychiatry in a colonial world

The idea for this doctoral project emerged in 1989 when I was working as a residential psychiatrist in a hospital for mentally ill poor persons. This hospital has in-patient, out-patient and rehabilitation services and provided a fairly rich environment for clinical training. However, my entry into psychiatry was lateral, and not uncritical.

My early studies were broad and travelled around from core medical texts to texts of culture, politics, history and sociology. My doubts were consolidating on the question of universality of psychiatry as a medical science. I wanted to know, how it was possible for a Western medical discourse on mind to negotiate a diverse range of cultures, and establish its hegemony? As we now know that health is a powerful area of governing a population, then how was it for the colonial government to construct a modern knowledge of mental science, which was the same but not quite? In other words, I wanted to read a history of psychiatry in colonial India that made its marks distinctive of its culture, and sometimes problematized the universal disease model that was implicated in it. I wondered: what kind of conceptual training has made it possible for us to see psychiatry only as a positivistic science devoid of culture and politics?

Recent works on colonialism and Indian psychiatry/psychoanalysis by scholars like Waltraud Ernst, James Mills, Christiane Hartnack and Dinesh Bhugra have provided some insight to the processes

about how colonial psychiatry operated to construct the 'native madman' who was always described in negatives! However, these studies did not attempt to see how this new object of knowledge was constructed which became a dominating discourse on the science of mind. They also did not investigate at depth about what kind of 'scientific' yet critical knowledge shaped our psychiatry.

Acknowledging what Michel Foucault has produced in his path-breaking work *Madness and Civilization*, about the power and ordering of reason, which tried to capture every bit of 'deviancy' and produced a science of madness in a monologue, I have attempted not to write a 'history of

insanity in the age of colonialism in India'. Instead I wanted to see, within a colonial modernity how a Western medical science of treating 'lunacy' produced a discourse that was not without any critical content. I was sceptical accepting a smooth, progressive and evolutionary narrative of a triumphalist discourse of Indian psychiatry.

The colonial context provided a refractive image of the Western psychiatry as it got engaged with a different and plural culture. Like many other sciences that grew in colonial India, psychiatry too suffered from a self-understanding of lack. In its journey for a proper development, the goal or standard is set taking Europe as the centre! A better, scientific psychiatry, is awaiting us when we become like the 'centre.' Till then, I am tempted to say (following a noted historian) that we remain in the 'waiting room of history and take up the identity of being 'not yet' civilized!

I have titled my thesis *From Lunacy to Mental Health: Formation of Psychiatric Knowledge in Colonial India*. The path charted in the travel from the concept of a 'lunatic' to a concept of disorder in mental health in India is complex and vast, spanning from the 18th century to the mid-20th century. However, I have limited my investigation from 1858, when the first Act on lunacy started in India, to 1947, with the ending of colonial governance and formation of the Indian Psychiatric Society. But instead of presenting a chronological narrative, I have attempted to map the construction of psychiatric knowledge from three discursive sites. Also, my main focus is on the Bengal Presidency, where the colonial

government claimed to have established their best system of medical education and treatment.

The first such discursive site is concerned with asylum practices, which generated a corpus of

annual and triennial reports, numerous lengthy tables with dense statistics, and focused mainly on custodial detention and constantly claimed a 'humanitarian' status with its policy of 'non-restraint'. Recording medical facts constantly remained a problematic task in categorizing inmates appropriately, indicating the instability arising in classification. Many times superintendents criticized magistrates' judgements in declaring a person 'insane' and sending him/her to the asylum.

Medical texts published in the official journal *Indian Medical Gazette* bore evidences of Indian characteristics observed by the colonial psychiatrists. These were mostly seen through racial categories and

categories of Western rationality where natives always featured as a perpetually negative identity. Textbooks on psychiatry written in the early 20th century with a special focus on India by the asylum superintendents were targeted for the medical officers who were posted in the asylums. These texts too reveal its colonial character by describing the heterogeneous culture and healing systems as bizarre, superstitious practices!

The second discursive site of knowledge production is the academic discipline. Psychiatry was made available first

through a postgraduate course in Psychology at Calcutta University in 1915. One should also note that the knowledge of asylum psychiatry was limited to a small enclave of government doctors. It is this course of Psychology that opened up an access to the knowledge of doctoring the mind. Dr Girindrashekhar Bose, after his medical graduation, entered the first batch of this course and stood first among all the students of MSc from the university. To me he is the first Indian psychiatrist. He was also the first psychoanalyst outside the Western world and founder-president of the Indian Psychoanalytical Society. With him the psychiatric knowledge took a radical turn. Despite being charmed by Freud's theory, he carved out a cultural version of psychoanalysis in India. He stands out as the unique symbol of Indian psychiatry that gave rise to a new genre of theoretical writing that explored the cultural questions while practicing the Western science. This discursive site lays bare the critical understanding of an alien science within an academic frame, where we get hybrid knowledge developed out of this engagement.

The third discursive site was constituted by outpatient clinics, a 'mental hygiene' movement, and a corpus of Bengali writings on mental health that appeared in various periodicals on popular science. This discourse

The specific character of an 'Indian' psychiatry was inscribed both by the colonizer and the colonized.

informs us how psychiatry was percolating in the community and how a new popular consciousness started forming. Psychiatry in vernacular gave rise to similar problems of translation as it happened with other sciences. However, it became more problematic for psychiatry in translating an autonomous, individualized 'self' constructed along the logic of a new human science in a culture where multiple views on self exist.

While connecting these three discursive sites we get a complex picture of the genealogy of psychiatric knowledge in colonial India. In all these discourses it is

possible to see that a critical knowledge supported by social and cultural sources transformed psychiatry. The specific character of an 'Indian' psychiatry was inscribed both by the colonizer and the colonized. What is understood as the lack in this medical specialty comes out as our special characteristics, not as a handicapped science but an altered science with its original message. It is also possible to see perhaps more clearly, the limits of a universal psychiatry. Looking closely from this historical perspective, the discourse of modern psychiatric knowledge in India does not appear an omnipotent and homogenous one. It carried critiques that opened up possibilities for new theorization from a vast pool of under-theorized data rejected or neglected as 'culture.' Relativizing psychiatry can augment de-centering of a hegemonic Western science.

Funds for this research were kindly made available by the History of Science Division of the Indian National Science Academy, New Delhi, India.

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Foreign bodies: Immigration and infectious disease in Australia

In recent publications and as an ongoing project I have been pursuing the idea that public health and infectious disease control have been part of the legal and technical constitution of the prohibited foreigner in Australia: an under-recognized means by which individuals and certain sub-populations have been specifically classified and excluded from the territory and body politic as 'undesirable' over the 20th century. Some of the recent redirections of my research include a growing interest in the legacy of 20th-century immigration/contagion border-control on current (highly discriminating) regulations governing entry. Overall, my aim is to integrate the history of health and infectious disease management into the already extensive Australian study of immigration and citizenship. Part of the effect of joint infectious disease and immigration regulation over the 20th century has been the imagining, as well as the technical implementation of, the island-nation as ostensibly secure, racially and territorially.

This confluence of infectious disease control and immigration is duplicated at many national borders. Borders and entry points are always deeply resonant sites: "We are the guardians of our nation's borders", announce US customs and immigration signs. But the border policing of contagion and immigration which has occurred in Australia has a very particular history for at least three reasons: first, the coincidence in Australian history of nation-formation (in 1901) and the consolidation of health and welfare measures in the early 20th century; second, the overlap between the official nationalist project of 'White Australia' and government policies and imperatives of 'hygiene', cleanliness and purity; and thirdly, the question of geography, the massively important island-status of Australia.

Medico-legal border control and government management of infectious disease – leprosy, tuberculosis, smallpox, plague – tend not to be

understood as significant aspects of the history of nation, of 'imagining' Australia. Nor, conversely, does 'contagion', its threat, its effects and its management, especially figure within the extensive Australian historiography of immigration. On both counts, most experts, scientists, clinicians and especially public health authorities in the business of national government and population regulation in the early to mid-20th century thought otherwise. For them, the connections between infectious disease control, immigration regulation and the formation of a strong and white nation were at the very least commonsense. Not infrequently these issues became one of the driving rationales of the progressivist mission. "The health of the race," wrote one doctor in 1911, "requires segregation by refusing entrance to undesirables from without."

The common enough 19th- and early 20th-century conflation of non-whiteness with contamination and disease certainly found its way into Australian law and regulation. The *Immigration Restriction Act 1901*, famously the basis of the White Australia Policy, and the *Quarantine Act 1908* together regulated exclusion along these lines. Under-recognized is the extent to which the Immigration Act governed health. It named as a prohibited immigrant "any person suffering from an infectious or contagious disease of a loathsome or dangerous character". This alone needs thorough exploration historically. But the connection was even more tightly drawn, because the Quarantine Act refers reciprocally to immigration and entry regulation. Conversely, then, the control of infectious disease was pursued explicitly and legally through the restriction of immigration into Australia in the early 20th century. For the Director-General of Health in the 1920s, quarantine was "the strict prohibition against the entrance into our country of certain races of aliens whose uncleanly customs and absolute lack of sanitary conscience form a standing menace to the health of any community".

But it is important to continually recognize that immigration regulation, like quarantine, was as much about letting people in, as keeping people out. I am also concerned then, to research how these laws and procedures also regulated entry both into the territory of Australia – as immigrants, tourists, labourers, refugees, students – and into citizenship through changing health requirements of naturalization. Shifting my own conceptual focus recently from exclusions to inclusions, it has become clear that the main objects of medico-legal border control for the first half of the 20th century were Britons seeking entry to Australia. Nearly all the formal procedures and formalities of health screening were developed to discriminate between 'desirable' and 'undesirable' Britons: the public health and nationalist logic was to eugenically enhance the quality of whiteness in the Australian population.

Regulations governing the health of people seeking entry to and/or citizenship in Australia have shifted with some regularity and at any given time vary greatly for different categories of entrant and according to country of origin/departure: anyone seeking a visa to Australia will know this. For example, while tourists from some nations are currently admitted to Australia with no health screening at all, others are required to declare health and infectious disease status, and still others entering on different kinds of visas need to undertake a medical examination, a chest X-ray and an HIV test; for example, an entrant on a student visa. What cluster of political, epidemiological and microbiological (and racial?) concerns currently constitute 'international student' in particular as risky and in need of surveillance or even exclusion? In posing this kind of question historically, I am mindful of the remarkable efficacy of a history of strong quarantine and entry regulations in Australia: this is,



epidemiological or even micro-biological terms. To look simply for a public health logic to explain this differential health requirement is to miss entirely what public health was and is. We need to fully appreciate the other socio-cultural sites in which public health is embedded and from which public health policies have historically derived.

Of course the specifics of the implementation as well as the comprehension of this connection between contagion and immigration have differed over the century. So has the comprehension of the risk of various places of origin (of people or microbes), of different communicable diseases, and the extent to which they have been constituted epidemiologically as 'invading' diseases and thus problematized within race-based immigration regulatory mechanisms. The case of tuberculosis is an instructive example. The epidemiological understanding of this disease has radically altered.

Around 1900 tuberculosis was 'the great white plague' in Australia as elsewhere. That is, although it affected indigenous populations in a major way, it was conceptualized by experts in Australia as a disease endemic to the white-British population, belonging to them, as it were. This contrasted markedly with infectious diseases such as leprosy, smallpox, or plague, which were epidemic, and which were almost always understood to have originated elsewhere and brought to Australia via people and goods on ships. Thus, if racial categories and racial difference organized almost all epidemiology of the period – especially the 'tropical' diseases like leprosy – this was simply not so for the understanding of tuberculosis.

In the second half of the 20th century, however, this changed. Tuberculosis began to be problematized epidemiologically and popularly as an 'invading disease' and was brought legally and bureaucratically into the field of migration regulation, as smallpox, venereal diseases or leprosy had been. By the 1980s tuberculosis, and especially the threat of its antibiotic-resistant strains, became thoroughly connected with migrants and more recently with asylum-seekers and refugees. Currently, tuberculosis alone, of all the possible communicable diseases, gets a specific mention in the amended Migration Act. Thus, if in 1901 tuberculosis was problematized as the great white plague, endemic to Europeans in Australia, in 2001 it is the sole communicable disease

nominated in migration regulations, and the disease most racialized in terms of popular culture.

Public health, immigration and citizenship regulations have been important joint sites of nation-formation and population management in Australian history. These fields of regulation were – and are – deeply and mutually invested in the policing of national borders, and in governing inclusions and exclusions of particular people and groups of people from the body politic and the territory. Processes of infectious disease control and health screening have always formed part of the formal rules of entry and exclusion and have been one of the major

governing rationales of various kinds of (and imperatives toward) border security mechanisms and policies.

A more detailed summary of my current research is available in Alison Bashford (2002) *At the Border: Contagion, immigration, nation*, *Australian Historical Studies*, vol. 33, no. 120, October, pp. 344–58.

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Late-Victorian Alder Heys? Anatomical trafficking of pauper cadavers under the late-Victorian poor law, 1870–1914

The recent controversies over infant organ retention at Alder Heys children's hospital in Liverpool, together with concerns expressed about the Bristol Royal Infirmary heart baby scandal, have highlighted that medical practitioners do not have a proper understanding of how anatomical practices in the past shape current research methods. Using a case study of Cambridge Anatomical Teaching School, Elizabeth Hurren explains how improvements in medical education were underpinned by a regular trafficking of pauper cadavers under the late-Victorian poor law.

The publication of Ruth Richardson's *Death, Dissection and the Destitute* (1988), and Michael Sappol's *A traffic in dead bodies: Anatomy and embodied social identity in 19th-century America* (2001) have highlighted that recent organ donation scandals in the National Health Service are not new. In both Britain and America during the 19th century the training of doctors at university depended on a regular traffic in pauper cadavers. Less well known are the demography, geography and scale of these acquisition activities. It is often unclear whether covert payments to cover administration costs were made to retain suppliers. Similarly few accounts tell us what type of research material anatomists favoured. Nor do we understand fully how bodies were transported and processed for research purposes. Without an historical understanding of organ research in its infancy we cannot begin to redress current bioethical issues about ill-defined anatomical and pathological guidelines. These key questions have been the focus of a recent study of the activities of Cambridge Anatomical Teaching School, circa 1870–1914.

Anatomy Act

In 1832 the Anatomy Act was passed during a climate of “popular violent antipathy” towards grave robbers who stole cadavers and sold them to anatomical teaching schools for profit. Not only was this trade illegal, it was also indiscriminate, distressing both wealthier and poorer families. Legislation in 1832, therefore, had three key aims. First, it was designed to protect respectable families from becoming victims of exhumation for profit. Second, it aimed to halt cadaver trafficking, exemplified by the notorious activities of grave robbers like Burke and Hare in Edinburgh, who not only resurrected but murdered for profit. Third, it wanted to increase



Above: An anatomist meditates on the corpse of a young woman.

anatomical cadaver supplies from legally authorized sources, other than prisons (executed criminals who had murdered were dissected regularly).

Ironically, the new legislation exacerbated trafficking problems. After the Poor Law Amendment Act (1834) was passed, pauper cadaver acquisition operated through a number of ‘official’ welfare channels, most notably asylums and workhouses. An unauthorized trade was legalized and the fee-income this generated for asylum and poor law officials from covert sales was hidden from public scrutiny. In this way, the Anatomy Act discriminated against the impoverished and the vulnerable, ignoring time-honoured death customs. By stipulating that any cadaver ‘unclaimed’ for burial up to six weeks after death could be sold by rate-payers to recover welfare costs, the social and religious feelings of the poor were ignored if they could not afford to bury their relatives. In Victorian England it was popularly believed that a dissected or dismembered corpse would not have a Christian afterlife because it had not been buried whole. Sometimes guardians of the poor stepped in and paid the cost of burial from public funds. Many feared a violent popular backlash if they contravened local death customs. Often the poor begged

until they had enough money to fund a funeral. What about the fate of those who failed?

Trafficking in pauper cadavers

The reason that we know so little about the demography, geography, scale and timing of cadaver acquisition is that few anatomical registers compiled by teaching schools in universities have survived. Poor law records are also fragmentary because those who sold cadavers were reluctant to record their activities accurately. This problem has been overcome by examining the burial registers of Cambridge Anatomical Teaching School.



Above: The interior of the Department of Anatomy at the University of Cambridge, 1888.

The University of Cambridge has a long and complex anatomical history. From its inception in 1716, anatomical training flourished. By the late-Victorian period the university was determined to establish itself as a regional leader in medical education. It needed the student fee income to balance its accounts and feared that unless it reformed its curriculum students would go to either a London rival or worse, Paris. The latter was their chief continental competitor because an Anatomy Act had already been in force there since the late-18th century and so students had regular access to cadavers for dissection purposes. Throughout the 19th century Cambridge's expansion plans and teaching ambitions in the anatomical field were not without local opposition. In fact, they often caused deep resentment because the training of medical students depended on a regular supply of pauper cadavers. The poor feared that anatomists were exhuming or requisitioning pauper bodies on a grand scale. We do have evidence of this ongoing resentment. Charles Darwin's autobiography recalls that in 1831, before the Anatomy Act was passed, a mob tried to stone two grave robbers arrested for disinterment activities.

Similarly, the *Cambridge Chronicle* reported in 1833 that the populace rioted over the disputed ownership of a poor man's body. The mob attacked the anatomy school in order to liberate his cadaver, which they believed had been taken illegally. Poor people claimed that the man was entitled to a customary parish funeral and coffin funded by rate-payers. Before the riot a cartoon was handed out to motivate the poor to protest. It condemned the work of anatomists by illustrating the poor's worst fears about the fate of their loved ones' remains. Cambridge anatomists were thus always sensitive about the extent and nature of their acquisition activities. So, they were anxious to avoid bad publicity and at the same time increase acquisition rates by 1870. They realised these twin ambitions by exploiting the radical nature of the late-Victorian poor law.

The late-Victorian poor law and anatomy: A profitable partnership

The Poor Law Amendment Act 1834 changed the basis of welfare provision in England and Wales. Underwritten by a *laissez faire* ethos, legislation stipulated that rate-payers, who paid local welfare bills, should uniformly only fund cases of destitution in workhouses. This new policy

was designed to discourage paupers from claiming welfare assistance by stigmatizing them for failing to resolve their poverty by working harder to avoid being a poor law claimant. Many regional studies have highlighted that this new legislation was implemented to varying degrees. Some guardians of the poor followed the strict letter of the new law, but many others ignored it. Thus, by the late-Victorian period central government was anxious to review why poor law policy was patchy and welfare costs were so high.

A decision was taken by the newly created Local Government Board in 1871 to reissue a series of directives

outlining that all paupers should only be cared for in the workhouse. Everyone else should be ignored. This policy was dubbed by contemporaries as the crusade against outdoor relief and anatomists soon realized it could benefit them too. The crusade encouraged guardians to recover the costs of care in the community whenever possible. Targets were set by central government to ensure ongoing cost-savings. One key way to achieve these targets was to become a regular pauper cadaver supplier for anatomical teaching schools in return for regular remuneration. Typically anatomical schools would offer to pay the costs of a coffin, undertaking, burial and any transportation expenses. Thus, each death in the workhouse incurred no expenses for rate-payers; instead they were recompensed for supplying bodies. Although in the mid-Victorian period asylum and poor law agencies supplied pauper cadavers, the scale of these activities was limited until the crusade was introduced.

Demography and geography of Cambridge cadaver acquisition

The Cambridge Anatomical Teaching School was authorized by the Anatomy Inspectorate in London to approach asylum and poor law personnel to acquisition pauper cadavers. Anatomists went on body-finding drives, offering incentives to those welfare agencies prepared to cooperate. Suppliers were assured that the anatomical school paid generously for cadavers, a sliding scale of £1 per cadaver for bodies aged over 50 up to £15 for younger bodies was offered. They also purchased a new burial plot in Mill Road cemetery, Cambridge, so that interments could be done covertly at night to avoid any bad publicity. The burial registers reveal four key findings.

First, cadaver acquisition rates increased by 200 per cent under the late-Victorian poor law, with asylums and poor law unions supplying bodies regularly. Second, the number of bodies requisitioned between 1855 and 1920 totalled just under 3000. This tallies with increased medical student numbers at Downing College after the Medical Act (1858) was passed. This legislation was passed because doctors wanted to distance themselves from quackery and so the new statute was designed to professionalize their ranks by introducing key curriculum changes. Importantly, after 1858 each medical student had to complete a minimum of two years' anatomical training at university to become a



doctor. Third, the ratio of men to women acquisitioned was 3:1, with most cadavers recorded as aged over 50 at time of death. Fourth, this demography cannot not be taken at face value because the department preferred to acquisition younger research material. High fees, around £15 per body, were paid for infants and young females aged under 20. A lot of this research material was bought from the poorer areas of the city, either in the vicinity of the asylum or workhouse. Often pauper bodies were supplied by Addenbrookes Hospital, situated near the anatomical school.

Curiously bodies also appear to have been purchased at the entrance to the anatomy department at Downing Gate, ironically named Slaughter House Lane. Most of the bodies registered as dying outside the anatomy school were infants. They were then shared among other fields of medical specialism, like embryology and pathology, following dissection by anatomists. The private papers of leading anatomists have survived and they reveal that the school was allowed to develop its own research methods without public scrutiny. Anatomical methods were streamlined, so that each student undertook a dissection methodically and in-line with procedural guidelines. Sharing research material was common and organs were 'harvested' and distributed among the medical research community. Some departments kept an organ register, but others did not. Anatomists justified their work by arguing that they had a paternalistic duty to improve the health of the nation by dissecting corpses to enhance medical knowledge. Thus, they should be allowed to develop their own procedures as they saw fit. Central government agreed and gave them a high degree of autonomy.

The geography of pauper cadaver acquisition at Downing is also enlightening. Anatomists went as far afield as Brighton, Doncaster, Finchley, Hull, Luton, Manchester, Nottingham and so on, to secure regular supplies. Each location had three advantages. First, it contained a poor law union that was one of the leaders in the crusade and so was a willing participant in cost-saving schemes. Second, the area had a fast freight train to Cambridge. Decaying cadavers needed to be transported quickly to get the preservation of the body underway. Third, the locations were often mortality hotspots where the poor died as a result of inferior sanitation and housing conditions. Where sanitation improvements sponsored by the Local Government Board were underway, such as in Brighton, local health improvements and poor law policy often clashed. Guardians needed the fee-income from deaths and took little interest in improving health care if it undermined their anatomical reimbursement schemes.

Conclusion

It is evident that we still have scant knowledge of the inner workings of anatomical schools and their acquisition activities. The Cambridge case study highlights that it is vital to uncover the demography, geography scale and timing of cadaver procurement. Further work would give us a greater understanding of medical education and the role its research methods played in establishing current practices. We have undervalued the crucial role that the late-Victorian poor law played in supplying anatomists with cadavers. It seems that the Anatomy Act (1832) and the late-Victorian poor law created a climate of duplicity, which endures today. Until the contexts of their cultures are uncovered through further regional work, we will never fully understand the legacy of late-Victorian Alder Heys.

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The oral history of biological sciences in India

The Tata Institute of Fundamental Research (TIFR) started functioning on 1 June 1945, out of the Cosmic Ray Research Unit that was set up for Dr Homi Bhabha, at the campus of the Indian Institute of Science in Bangalore. The institute moved twice in the next six years before the present campus in Bombay that spreads over 15 acres of land, was formally inaugurated by Jawaharlal Nehru in 1952. Ten years later, Bhabha invited Obaid Siddiqi, a Molecular Biologist to join the institute, thus ushering in a unique opportunity for interaction between the already established physical sciences and biology at TIFR. Since then, modern biology in India has rapidly grown to include among others Developmental, Reproductive, Cellular, Molecular Biology and Computational Neurosciences. The late 1970s and early 1990s saw the establishment of new institutions such as the Centre for Cellular and Molecular Biology in Hyderabad and the National Centre for Biological Sciences (a part of TIFR) in Bangalore. From the 1980s onwards, there has been an emphasis on developing new areas in science and technology such as biotechnology and bio-informatics at the level of national planning.

Such decisions have had a significant impact on the framing of university curriculum. There are, however, very few archival resources available in India for researchers who wish to understand the dynamics of the development of Biological Sciences here. The TIFR-Oral History Project, housed at the National Centre for Biological Sciences, Bangalore, is an attempt to create one such resource for future researchers.

This project will record and transcribe extended interviews with individual scientists and science administrators. In the process it aims to trace the formation of their scientific interests, their early education, their contributions to the development of research areas and institutions. Each of the seven-part interviews also attempt to record the relationship between the state and scientific research agendas and also the links between basic research in the biological sciences and the rapidly growing bio-tech industry. The interviews also include discussions of ethical issues and, most importantly, what it means to do science in a Third World country like India. The archive has also undertaken to copy

and preserve any documents, photographs, notebooks, journals and correspondence that the scientists and administrators make available.

The project commenced in September 2002. The first six months have been devoted to identifying and contacting individual scientists and science administrators (many of whom have now retired), doing background research for individual scientists and administrators, developing a broad question outline, and working out the legalities. Seven sessions of interviews with Obaid Siddiqi have been completed. The transcriptions are being processed. We hope to disseminate the transcriptions, photographs and oral recording in the form of a website and edited CD-ROMs – both for research purposes and general interest.

Once this phase of the project is under way, the TIFR–Oral History Project aims to generate further oral history recordings through a

targeted programme of interviewing, and by providing advice, training and support for students and researchers who are interested in developing their own projects in the history of science and medicine in India. In a more general sense, the oral archives mark the beginnings of a larger archive for the biological sciences and medicine in India.

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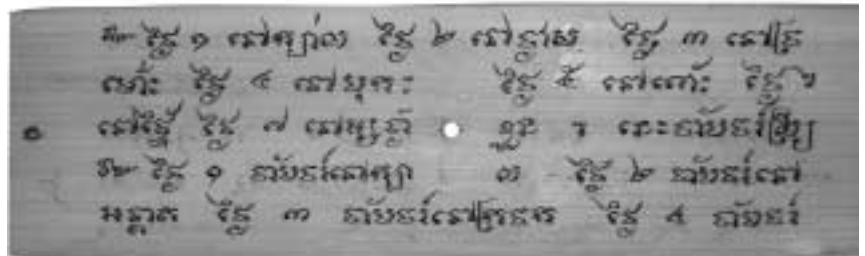


Historiography of Khmer medicine

The history of medicine in ancient Cambodia has received little attention during the last century. There is no book or article that carries the title “history of Khmer medicine” or “history of medicine in Cambodia” or any other equivalents. Yet there is a variety of written and non-written data that may be exploited as sources for the study of history and culture of medicine.

Chinese travelers were the first eyewitnesses to report on ancient Khmer medicine, or at least some aspects of it, as it was practiced in the cities and villages. However, because their primary goal during their visit to Ancient Cambodia was to report on the culture and the politics of the Kingdom, there was no detailed description of medical practice and its local history, only anecdotal accounts. Among these travelers, Zhou Daguan stayed almost an entire year in Angkor Thom in 1296. His report is the only written source of daily life in the Angkor Kingdom. He described the hygiene habits of the Khmer, the selling of medicinal plants and the presence of lepers wandering freely in the city. He also suggested that “frequent baths” were the cause of leprosy.

Since that first written report, other accounts were prepared by Spanish and Portuguese Christian priests and adventurers who visited Cambodia in the 16th century. In-depth study of Khmer culture started during the French colonization. Most of the French scholars, then civil servants of the administration, conducted ‘Khmer studies’ that included archaeology, epigraphy, ethnology and history of arts. During that period, the priority of prominent scholars like George Coedes was to translate Sanskrit inscriptions into French in order to establish a precise chronology of Khmer kings, while architects and archaeologists busied themselves in the inventory and restoration of Khmer temples. Coedes produced his seminal work from 1937 to 1966 and published his eight-volume corpus



Above: Inscriptions such as these allow the study of life in ancient Khmer society.

of Sanskrit inscriptions from Cambodia. During that period, ancient Indian culture was thought to be the civilizing factor of the less culturally advanced indigenous Khmer. In this context, social history including the study of Khmer medicine was a low priority and was neglected. Along with the study of inscriptions, several aspects of medicine as practiced at the temples patronized by the royal court had been evaluated and published. The few studies conducted focused exclusively on Ayurvedic medicine and medical practices in the hospitals of King Jayavarman VII in the 13th century.

The first body of knowledge on Khmer medicine comes from anthropological studies conducted in the late 19th century by Leclère, a French administrator, who published several articles on medicine, anatomy and divination in Cambodia, based on medical texts written on palm-leaf manuscripts. A handful of these manuscripts are now kept in libraries in France and Cambodia. To the best of my knowledge, none of them have been translated in French or English. In 1929, Prince Norodom, educated exclusively in Western medicine, was the first national to conduct a research on Khmer medicine in the context of his doctoral thesis of medicine at the University of Paris. Being brought up at the royal court, he witnessed the rituals and traditional medicine practiced at the palace. His dissertation was based on the analysis of traditional medicine using an ethnographic approach. That study put medicine in the context of Khmer values and beliefs and contained a significant description of ancient rituals. However, the author discarded these practices because they were interpreted as non-scientific and



eagerly welcomed the introduction of biomedicine by the French colonial administration.

Three decades later, Huard, a French doctor who practiced many years in Indochina, published the first two-part article with a basic periodization of the history of Khmer medicine divided in three periods: pre-Angkorean, Angkorean and

post-Angkorean, based on data from inscriptions and archaeological finds. It would take three decades to see two new articles dealing with medical practice during the Angkor period.

The flux of Khmer refugees fleeing Cambodia from the mid 1970s triggered many medical anthropological studies on traditional Khmer medicine in the refugee camps in Cambodia or Thailand, or in countries like France, Australia and the US. The studies were initiated by anthropologists who wished to understand Khmer values and beliefs in health and sickness in order to train healthcare providers to deliver services more relevant to the cultural traits of Khmer patients.

New questions

From the late 19th century onwards, Khmer medicine has never been studied by a trained historian but mostly by ethnologists, doctors, medical anthropologists, and exceptionally epigraphers. Among them, Leclère may be considered the pioneer and most prolific writer of Khmer medicine. Other authors, although extremely productive in their



Above: Nakhon Thom [Angkor Wat], Cambodia, 1866.

own respective field, like Coedes in epigraphy, Huard in the history of medicine in Asia, and Ang in ethnology, have produced a limited corpus of specific knowledge on Khmer medicine. However, their works remain a valuable foundation to support the development of a more focused historical study on Khmer medicine, which remains currently embryonic. An unlimited set of historical questions remain unanswered or worth exploring, including: What was the cultural foundation of medical practice in ancient Cambodia? Are there any references to medicine in Khmer mythology? How did the Khmer perceive his/her natural environment and his/her own body and his/her illnesses? What were the different types of treatments available? What were the similarities and differences between Khmer medicine and medicine in other countries of Southeast Asia, China or India? What was the real impact of Chinese and Indian medicine on Khmer medical theories and practices? These questions, their nature and the diversity of sources currently available but not yet explored, lay the foundation a promising holistic and interdisciplinary approach to Khmer medicine.

The sources

The sources for history of Khmer medicine are numerous and diverse but also fragmented and dispersed. There are two literary sources, namely the inscriptions on stone and the medical manuscripts. Both contain fundamental and rich historical data. There are two types of inscriptions on stone. The first includes those inscriptions written in Sanskrit verses. They contain information on religious life at the royal court and temples, the panegyrics of kings, Vedic rituals and the sacred Vedic literature. Rarely they informed the historians on the life of priest-doctors at the court. There are few references to medical practices and Hindu medical treatises such as the famous compendium of Susruta Samhita, estimated to date from the 5th century AD. Finally, the famous inscription of Say Fong shed some light on the establishment of a vast network of hospitals during the reign of the Buddhist King Jayavarman VII (1181–1220 AD). In contrast to Sanskrit inscriptions, old Khmer inscriptions were written in prose, and contain information on donation to temples, regulation and administration of these temples as well as the legal aspects. These inscriptions allow the study of social, economical and material life of the laymen in ancient Khmer society.

The medical manuscripts on palm-leaf have been widely used by Leclère in the late 19th century and later in the 1960s by Bizot, a French Buddhist scholar, to describe the anatomy and embryology according to Khmer conception on the human body. Many manuscripts are currently available in libraries of the Ecole Française d'Extrême-Orient, the Bibliothèque Nationale in Paris, and the Fonds des Manuscrits de Phnom Penh. In the catalogue of Khmer manuscripts published by Au, one can identify a handful of medical treatises or technical guides for the practice of traditional medicine waiting to be translated and edited. Non-medical manuscripts such as the Buddhist *Jataka* or the popular *Reamker* (*Khmer Ramayana*) contain some aspects of magical medicine, reflecting the Khmer values and beliefs in health and illness.

Beside the literary sources, historians can use archaeological data to search for some references in medicine. As Khmer medicine, like anywhere else in the ancient world, was a sacred occupation, the study of religious monuments and sculptures may shed the light on the history of Khmer medicine. Thus, the bas-reliefs of the 13th-century Bayon display daily life scenes some of them showing life, illness, trauma and death in Khmer society during that period. In addition, many chapels of

hospital and a pond of healing water like the Neak Poan temple remind the historian of certain aspects of the ancient Khmer medicine.

Because the Khmers were in contact with two main regional schools of medical thought, a comparative approach with Indian and Chinese medicine would be useful to explain some aspects of Khmer medical theories, diagnostic and therapeutic methods.

Bioarchaeology represents the latest auxiliary discipline that may bring evidence to support some hypotheses related to the migration of ethnic group, the linguistic distribution of Khmer population, and disease that may affect the Khmer in the past. The extraction of DNA from ancient skeletal and dental remains is one source of knowledge. In addition, other ancient biomolecules such as proteins, serum albumin and lipids may serve as indicators of diet and disease in past population.

Conclusion

The history of Khmer medicine has received little attention during the last century. After a few studies during the French colonization of Cambodia, and an interruption of three decades because of the war and isolation, the return of peace has brought Cambodia back on the world stage. This opens unlimited opportunities for scholars in Khmer studies to resume research projects on the different aspects and dimensions of Khmer culture, among them the history of medicine.

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BOOK REVIEW

Clavis Commentariorum



The art of commentary formed an important part of scholarly activity on Antiquity and the Middle Ages. Exegetes commented on a variety of topics ranging from philosophy and the Bible to medical texts. With its new collection, *Clavis Commentariorum*, the editor Brill intends to offer systematic descriptions of such commentaries. The first volume of the collection, by Sibylle Ihm, is devoted to medical Greek and Latin commentaries, up to the 12th century on authors who were active before 600 AD.

In the introduction Ihm exposes her aims and methodology, and briefly sketches the history of the medical commentary. This introduction is followed by the actual *Clavis* database, a description of 316 commentaries, classified in alphabetical order, according to their author. Each description includes information on 12 points: the author and the title of the commentary, the author and the title of the commented work, the date of the commentary, its type, its extension and its content, the available editions, manuscripts and secondary literature, and comments of the editor.

It is in the Hellenistic period, from the 3rd century BC that the art of Greek medical commentary flourished, principally in one of the most important intellectual centers of the time: Alexandria. Following the example of the famous physician Herophilus, members of different medical schools commented on the works of the father of medicine, Hippocrates, often using commentaries as a way to dispute against one

another. Unfortunately, with the exception of a commentary by Apollonius of Citium, none of these Hellenistic commentaries is preserved. The little knowledge we have of them is through mentions by later authors, mainly Erotian (the author of an Hippocratic glossary, 1 AD) and Galen (129–c.216 AD).

By contrast, we know much more about the commentaries of the most prolific of all Greek medical authors, Galen of Pergamum. Ihm gives us a description of 44 Galenic – or pseudo-Galenic – commentaries, on a variety of Galen's predecessors such as Herophilus and Erasistratus, but mainly on Hippocrates. Some of these are now lost, but more than half are preserved in either their original Greek or in an Arabic translation.

As Galen explains himself, his commentary-activity can be divided into two periods. In the first, the physician wrote commentaries for his personal exercise, to train himself in the art of medicine; in the second, he wrote commentaries for the average educated man. For Galen, the aim of a commentary is to explain what is unclear, not to judge what is true or false in the commented work. By setting himself this aim, which he sometimes did not put in practice, Galen indirectly criticized his predecessors who used Hippocratic commentaries as a polemic means.

From Galen's death until its conquest by the Arabs in the 7th century, Alexandria became the major centre of production of Greek commentaries on the works of Galen and Hippocrates. In Alexandria, the so-called *latrosophistes*, both philosophers and physicians, constituted and commented on canons of selected Hippocratic and Galenic texts. Several of the Alexandrian commentaries are preserved either in Greek or in Latin or Arabic translation. Most of these commentaries have a determined structure, which follows the rules of the contemporary philosophical commentaries: a long introduction (*prolegomenon*), in which the aim of medicine is defined, and the actual commentary, most of the time divided in sections (*praxeis*).

After the 7th century, the production of Greek commentaries seems to come to a standstill; we have information on only one late commentary: Theophilus's commentary on the Aphorisms of Hippocrates (9th–10th century AD).

In the Latin West, on the other hand, the city of Ravenna became, from the 6th century AD, a centre of translation for Greek medical texts into Latin. These translations also included commentaries, but we know of only few instances.

From the 7th century onwards, most commentary-activity took place in the Arabic world. Arabic scholars produced their own commentaries on the Hippocratic and Galenic canons of texts constituted in Alexandria; but they also, as already noted, translated Alexandrian commentaries into Arabic, providing us with precious information on works now lost in their original form.



almost every year the publication of new translations, editions, or even discoveries of Arabic translations of Greek commentaries. However, there has been until now, no general survey on this topic. Ihm succeeded in providing us with such a survey. Thanks to its clarity and thoroughness, the *Clavis* will certainly serve as a firm basis for further studies, and even as an incentive for new researches.

One warning should, however, be made: The *Clavis* is clearly intended for readers specialized in ancient medicine. There are several

un-translated quotes in Latin and Greek, and no key to the numerous abbreviations used. If, as expected, the *Clavis* database is later made available in computerized form, one might hope that this form will be a little more accessible to a general audience.

Ihm S (2002) *Clavis Commentariorum der antiken medizinischen Texte*. Leiden: Brill. ISBN 90 04 12334 2

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Ihm's database ends in the 12th century AD, a time which saw the beginning of the commentary-activity of the medical school of Salerno. For Ihm this date marks a breaking point in so far that, from that time, commentaries were made on Latin translations and not on Greek original texts. However, in her introduction, Ihm sketches the history of medical commentaries from the 12th century to the 15th century, in important medical centres such as Salerno, Bologna and Montpellier. The study of ancient medical commentaries is a growing field, with

NEW PUBLICATIONS

Blood and Justice: The seventeenth-century Parisian doctor who made blood transfusion history

Jean-Baptiste Denis' pioneering attempts at transfusing blood from animals to humans is an extraordinary tale – one of scandal and conflict, discovery and madness, blood and justice. Blood transfusions have saved millions of lives, but in 17th-century Paris it came close to costing Denis his when he was accused of murder.

The year was 1667 when Denis, a distinguished Parisian doctor, was called to treat a manservant by the name of Antoine Mauroy. Mauroy had been suffering from periods of insanity during which he indulged in dangerous behaviour including running naked through the narrow streets of Paris setting light to the closely packed wooden houses. Mauroy soon became notorious within his neighbourhood and it was decided that action was necessary. Denis believed that by transfusing the blood of a calf into Mauroy his patient would assume the calf's placid nature. The experiment appeared to work. The highly toxic blood made Mauroy very ill and therefore very placid. It is now believed that he was in fact suffering from syphilis, which induced his violent behaviour. The symptoms of syphilis would also have been relieved by the high fever that the toxic blood would have induced. Eventually Mauroy died and Denis was arrested for his murder. Further investigations revealed however that Mauroy had not died from the blood transfusion (although

he certainly would have done so very shortly) but from cyanide placed in his food by his wife, no longer able to tolerate his behaviour.

This is a fascinating tale of 17th-century Paris with a gripping detective story of uncovering the true murderer. The tale, which spans history from Aristotle to recent times, gives an insight into the earliest attempts at a procedure that has saved the lives of many people. It also raises ethical issues that are as relevant today as they were at the time.

About the author

Dr Pete Moore is Chairman of the Medical Journalists' Association and winner of many awards for his journalism. He is an Honorary Fellow of Trinity College, Bristol, and an official rapporteur at Windsor Castle and private meetings at the House of Lords. He completed postdoctoral research fellowships with the Wellcome Trust and British Heart Foundation.

Pete Moore (2002) *Blood and Justice: The seventeenth-century Parisian doctor who made blood transfusion history*. John Wiley and Sons, UK. ISBN 0 470848 42 1, £16.99

Bodily Extremities: Preoccupations with the Human Body in Early Modern European Culture

A strong preoccupation with the human body – often manifested in startling ways – is a characteristic shared by early modern Europeans and their present-day counterparts. While modern manifestations of this interest include body piercing, tattoos, plastic surgery and eating disorders, early modern preoccupations encompassed such diverse phenomena as monstrous births and physical deformity, body snatching, public dissection, flagellation, judicial torture and public punishment. This volume explores such extreme manifestations of early modern bodily obsessions and fascinations, and their wider cultural significance.

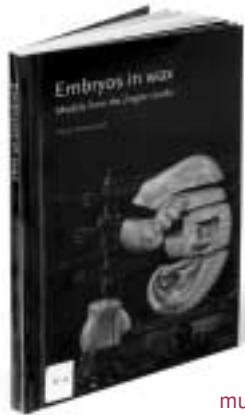
Agreeing that an interest in physical boundaries, extreme physical manifestations and situations developed and grew stronger during the

early modern period, the essays in this volume investigate whether this interest can be traced in a wider range of cultural phenomena, and should therefore be given a prominent place in any future characterization of the early modern period. Taken as a whole, the volume can be read as an attempt to create a new context in which to explore the cultural history of the human body, as well as the metaphors of research and investigation themselves.

Florike Egmond and Robert Zwijnenberg (eds) (2003) *Bodily Extremities: Preoccupations with the Human Body in Early Modern European Culture*. Ashgate Publishing Ltd. ISBN 0 754607 26 7



Embryos in wax: Models from the Ziegler studio



The embryos that we see today on our computer and television screens were first visualized over a hundred years ago, but in very different media. While much has been written about the remarkable transformation of embryology during the 19th and early 20th centuries, *Embryos in wax* highlights the role of three-dimensional models for the first time. It is about the finest wax embryos, the extraordinary objects that Adolf and Friedrich Ziegler cast for universities and museums around the world. For decades

indispensable in teaching and research, these models opened up new visions of pregnancy and evolution. Discovering how they were produced and used gives our understanding of embryos a whole new dimension, and challenges the monopoly of books in histories of science.

See <http://www.hps.cam.ac.uk/embryos> for more details.

Nick Hopwood (2002) *Embryos in wax: Models from the Ziegler studio*. Whipple Museum of the History of Science, University of Cambridge; Institute of the History of Medicine, University of Bern. ISBN 0 906271 18 5, £13.50

Inventing Global Ecology: Tracking the Biodiversity Ideal in India, 1945–1997

Inventing Global Ecology is many things in one: the story of an American researcher's experiences in India and his country; a fascinating survey of biodiversity conservation (whose fortunes in India have been mixed); a thoroughly researched and documented study of the policies, prospects, and pragmatics of ecological and ethical decisions that ought to determine our future. It casts the US in roles seldom seen – as partner and proprietor of global environmental projects.

Lewis's book carries amply relevant and analytical data besides a fairly detailed chapter on an Indo-US initiative that has borne excellent results – the special relationship in human and scientific terms that developed through the 1950s and 60s between Dillon Ripley (of the Smithsonian Institution) and Salim Ali (of the Bombay Natural History

Society). Ethnographic fieldwork and oral history, as well as traditional archival research, combine to give *Inventing Global Ecology* an edge both general readers and specialists will appreciate.

About the author

Michael Lewis is Assistant Professor of History at Salisbury University, Maryland, USA. This is his first book, and is based on research conducted in India and the US under the auspices of the Fulbright Foundation, the University of Iowa, and the Fulton School of Liberal Arts at Salisbury University.

Further information is available at www.orientlongman.com or contact the Acquisitions Editor—Social Sciences (E-mail: editor@pol.net.in).

Michael Lewis (2002) *Inventing Global Ecology: Tracking the Biodiversity Ideal in India, 1945–1997* ('New Perspectives in South Asian History' series). ISBN 0 863118 63 1



Wellcome Witnesses



Above: Stories of iron tablets being fed to the Rhondda sheep are without foundation, despite this offering from Estlin Waters in the late 1960s.

The extensive published record of modern medicine and medical science raises particular problems for historians: it is often presented in a piecemeal but formal fashion, sometimes seemingly designed to conceal rather than reveal the processes by which scientific medicine is conducted. Study of unpublished archives may provide helpful insights, but official archives may be limited in range and depth and, in the UK, public records are subject to a restriction that keeps papers hidden for at least 30 years. The survival of personal papers can be patchy: many are lost during an individual's lifetime as space constraints or relocation demand the jettisoning of material without regard for its historical significance. Probably even more papers are wrongly discarded as worthless and uninteresting by their owners, or by relatives acting immediately after a bereavement. Thus historians of contemporary medicine and science are increasingly turning, or

returning, to the traditional technique of oral history to supplement, or extend, existing records, and to create new resources. The published transcripts of Witness Seminars on recent medicine go some way to addressing this need.

Volume 13 – Population-based Research in South Wales: The MRC Pneumoconiosis Research Unit and the MRC Epidemiology Unit

Includes contributions from epidemiologists, fieldworkers, statisticians and medical scientists, who discuss studies on glaucoma, occupational diseases, and pioneering investigations on iron deficiency anaemia, environmental lead, migraine, asthma, and high-profile trials that showed regular use of aspirin and eating a diet rich in oily fish improved survival from a heart attack.

Volume 14 – Peptic Ulcer: Rise and Fall

Discusses views of physicians, surgeons, academic and industrial pharmacologists, and epidemiologists on changes in the aetiology, diagnosis, and treatment of peptic ulcer since World War II.

Volume 15 – Leukaemia

Examines some of the major discoveries and changes in the management of leukaemia over the past 30 years, such as the discovery of the alkylating agents, exchange transfusion and the exciting development of combined chemotherapy which led to more than 60 per cent of adults with acute myeloid leukaemia achieving complete remission.

Volume 16 – The MRC Applied Psychology Unit

Considers the origins and impact of the unit's work from 1944 to 1998. Psychologists, clinicians, and industrial, ergonomic and occupational psychologists discuss the evolution of work from narrow post-war industrial and military concerns to more recent applications in, for example, ageing, dyslexia, depression, form design, information, and semantics.

Volumes 13–16: £10 per volume plus postage

To order a copy contact Tracy Tillotson
E-mail: t.tillotson@wellcome.ac.uk

Further details of the series, *Wellcome Witnesses to Twentieth Century Medicine*, at: www.ucl.ac.uk/histmed/witnesses.html

For further information on the History of Twentieth Century Medicine Group, contact:
Wendy Kutner
The Wellcome Trust Centre for the History of Medicine at UCL
24 Eversholt Street
London NW1 1AD
Tel: 020 7679 8106
Fax: 020 7679 8193
E-mail: w.kutner@ucl.ac.uk

The discovery that will revolutionise the treatment of peptic ulcers and reflux oesophagitis



Above: The first advertisement for histamine H2 receptor antagonist, 1976.

Tamil Nadu State Archive

The Tamil Nadu State Archive in Chennai (formerly Madras) has long been famed for housing unique material about early British commercial activity in India, and the 'Records of Fort St George' have been widely used by historians studying the early phases of European colonialism in Asia. What, then, about medical history in the early colonial period? Do the collections offer similar opportunities for historians interested in the medical relations between Europeans and Indians up to the middle of the 19th century? The collections of the Tamil Nadu State Archive will probably never be as important to historians of medicine as they have been to historians of commerce, but they still contain valuable information. During a research trip in the summer of 2001, I discovered two types of sources, which might make a visit to Chennai worthwhile.

First, the well-preserved district records compiled by collectors in the districts – or basic administrative units – of the Madras Presidency have been abstracted and the abstracts printed in a guide for each district.


From the guide it is easy to locate and order the original documents. This gives reasonably easy access to detailed and fascinating information – including information on health and medicine – at the local level. Among the themes touched upon in the records are vaccination against smallpox, measures taken against epidemic fever and the medical interests of the Rajah of Tanjore. Some of this material can also be found in the archives of the central administration in Madras (primarily in the proceedings of the Board of Revenue), but the district records do contain much material, which is not available elsewhere. The guides cover the period from the 1780s to 1835 (although there are numerous gaps). Records relating to the districts, which in independent India came to form parts of Andhra Pradesh, have been transferred to Hyderabad and records generated after 1835 are still in the district depositories.


Second, the archive holds an interesting collection entitled Surgeon General's Records. This series covers the period from 1787 to 1829 – again with some gaps – as well as a few scattered volumes from the 1840s and 1850s. Some of the records are very brittle, but others have been conserved recently and are in good condition. For the early years the series basically contains the proceedings of the Medical Board. As the Medical Board referred to the Government in the military department, their proceedings might also be found in the military proceedings of the Madras Government. Not everything was copied, however, and the Surgeon General's Records turned out to contain much unique material, particularly in the form of enclosures to the proceedings. In the later years, the content of the series changed and it appears more as the letter book of the Medical Board.

Whether the Tamil Nadu State Archive contains similarly pleasant surprises for the later colonial and independent period, I do not know. I can only recommend historians interested in the history of medicine in India go and find out!

The Tamil Nadu State Archive is conveniently situated opposite Chennai's Egmore railway station, which means numerous restaurants and reasonably priced hotels in the neighbourhood. The staff is friendly and the archive open every day from 08.00 to 20.00. Access is according to the general rules for archival studies in India. Non-Indians should seek affiliation to an Indian academic institution, arrange for an established Indian scholar to function as their 'research guide' and apply for a research visa at least a year before the planned trip.

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Research Resources in Medical History 2003/2004



During 2001/2002 the Wellcome Trust funded a highly successful competitive grant scheme, Research Resources in Medical History, in partnership with the British Library.

With an initial sum of £1 million allocated over two years, the scheme funded a wide range of projects such as £5000 to Lambeth Palace Library for the conservation of medical licences and Court of Arches records and £96 543 to Dundee University for 'Unlocking the Medicine Chest: Accessing the Medical History Records of Dundee University Archives'.

Such was the response to the scheme that a decision was made by the Wellcome Trust towards the end of 2002 to extend it for a further two-year period with additional funding of £1 million, resuming full administrative responsibility in the process.

The scheme exists to provide non-recurrent funding to libraries and archives in the UK for specific projects that aim to improve access to,

or conservation of, documentary collections constituting important research resources in the field of medical history.

What types of project might be funded?

The scheme focuses on the history of medicine and any collections associated with this field. Projects that have a wide and lasting application for study and research are preferred but proposals for the scheme could centre on:

- cataloguing from source materials;
- converting catalogues;
- creating new gateways to, or surveys of, collections;
- conservation work to save fragile and damaged materials;
- cataloguing or conservation of important photographic collections;
- projects based on contemporary records;
- digitization of original materials (purpose and long-term preservation must be justified).

What can be requested?

Most grants awarded from this scheme are expected to be between £10 000 and £100 000 with a minimum sum of £5000. The total allocation to the scheme is £500 000 for each year.

Grants may be used to pay staff salaries and purchase any necessary equipment, for example to improve environmental monitoring and control.

Who can apply?

The scheme is open to any type of institution in the UK but not to individuals. Libraries and repositories in all sectors, and collaborative programmes or projects, which may be part-funded by other agencies or sources, are all eligible.

The closing date for preliminary applications in 2003 is 15 October. Further information including criteria and guidelines for applicants is available from the Wellcome Trust at www.wellcome.ac.uk/rrmh or via e-mail.

Enquiries should be made to:

Sue Barclay at sbarclay@wellcome.ac.uk or rrmh@wellcome.ac.uk, or call 020 7611 8658.

Thanks are due to Anna Grundy, Stephanie Kenna and Henry Girling of the British Library. All three did a fantastic job of promoting the scheme and managing the awards during the first two years.



Asian Society for the History of Medicine

The first meeting of the Asian Society for the History of Medicine (ASHM) will be held in Taipei on 4–8 November 2003. The ASHM was founded in July of 2001, at a gathering at the International Research Center for Japanese Studies (Kyoto), which brought together medical historians from numerous Asian countries.

The Society is a purely academic, non-profit organization, devoted to advancing the study of the history of medicine (non-Asian as well as Asian, and including the histories of public health, dentistry, pharmacy, nursing, and allied arts, sciences, and professions) in Asian countries. Its chief purpose is to foster international cooperation and scholarly exchange among medical historians working in Asian countries, and to serve as a bridge for these historians to other medical history organizations around the world.

Specifically, the Society plans to:

- organize meetings once every two years;
- issue a newsletter every four months;
- maintain a registry of medical historians in Asia.

Membership

Membership is open to individuals of any country who are interested in the history of medicine and allied disciplines. Memberships are of two types:

1. Contributing members: Dues for contributing members are US\$50 for five years. This modest sum goes toward supporting the ASHM's informational activities. All those who can afford to do so are urged to support the Society by contributing. In addition to receiving the newsletter, contributing members are eligible to vote on ASHM policies, and in officer elections.
2. Non-contributing members: Those unable to afford the contributing member dues can still become members of the Society simply by registering. All registered members will be listed in the Society directory, and receive the newsletter.

For more information, contact the Institute of History and Philology, Academia Sinica, Taipei, Taiwan
E-mail: ashm@pluto.ihp.sinica.edu.tw
Fax: + 886 2 2786 8834

Interweaving Medical Traditions: Europe and Asia, 1600–2000

Applications for student bursaries are invited for a conference to be held 11–13 September 2003 at Wolfson College, Cambridge, UK. The conference is being organized by Dr Sanjoy Bhattacharya of the Wellcome Trust Centre for the History of Medicine at University College London (UCL), with Dr Rethy K Chhem of the Faculty of Medicine, National University of Singapore, as co-organizer. Funding is provided by the Asia–Europe Foundation, the Wellcome Trust and the Wellcome Trust Centre for the History of Medicine at UCL.

There has been a tremendous response to the earlier advertisements of this conference and all the general places are now full. However, thanks to the generosity of the History of Medicine Division of Wellcome Trust, we have been able to create four post-graduate bursaries for students registered for a degree course in the UK. Each bursary will cover travel costs within the UK, as well as accommodation and other conference attendance costs. Applicants should write to Dr Bhattacharya at the address given below, along with a copy of their CV and an indication of their research interests/topic of their thesis by 25 July 2003. The successful applicants will be contacted by 18 August 2003.

Panels that will be set up during the meeting:

- Panel one: The early contacts between Europe and Asia
- Panel two: Medical trends during the entrenchment of colonialism in the 19th century
- Panel three: Medical trends during the period of 'mature colonialism' – An examination of the late 19th and 20th century
- Panel five: After colonialism
- Panel six: Medical pluralism in Asia
- Panel seven: Medical pluralism in Europe

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FORTHCOMING EVENTS

History of Paediatric Gastroenterology Conference

This one-day meeting, to be held 14 November 2003 at Apothecaries Hall Blackfriars, London, will discuss the main themes in the emergence of paediatric gastroenterology as a discipline in its own right from the late 1960s and early 1970s. It is co-sponsored by the British Society for Paediatric Gastroenterology, Hepatology and Nutrition and the Faculty of History of Medicine of the Society of Apothecaries of London.

For details and preliminary registration contact Professor JA Walker-Smith (E-mail: johnwalker_smith@hotmail.com).

There will be an absolute limit of 60 delegates attending the meeting.

FORTHCOMING EVENTS

Society for the Social History of Medicine 2003 Roy Porter Student Essay Prize Competition

The Society for the Social History of Medicine (SSHM) invites submissions to its 2003 Roy Porter Student Essay Prize Competition. This prize will be awarded to the best original, unpublished essay in the social history of medicine submitted to the competition as judged by the SSHM's assessment panel. It is named in honour of the late Professor Roy Porter, a great teacher and a generous scholar.

The competition is open to undergraduate and post-graduate students in full- or part-time education. The winner will be awarded £500, and his or her entry may also be published in the journal, *Social History of Medicine*.

Further details and entry forms can be downloaded from: <http://www.sshm.org> or contact:

David Cantor
Division of Cancer Prevention
National Cancer Institute
Executive Plaza North
Suite 2025
6130 Executive Boulevard
Bethesda MD 20892-7309
USA
E-mail: competition@sshm.org



The deadline for entries is 31 December 2003.

FORTHCOMING EVENTS

Call for papers: *Boltonia*

This year – 2003 – marks the centennial of the death of Henry Carrington Bolton (1843–1903), after whom the Bolton Society is named. As part of the commemoration of this event, issue 6 of our newsletter *Boltonia*, to be published in December 2003, will be devoted to articles on Bolton. The Bolton Society is an organization of chemical bibliophiles operated through the Chemical Heritage Foundation in Philadelphia.

Bolton was part renaissance man, part chemist, part lecturer, and the consummate bibliophile. He 'studied' with Dumas, Bunsen, Kirchhoff, Kopp and Hoffman, but obtained his PhD with Wöhler. Independently wealthy, he retired at the age of 44 to pursue "subjects that interested him". According to Wyncham Miles, "Bolton was bald, bearded and chubby," the result in part by Bolton's own admission that he was

"blessed with a hearty appetite". When he died at the age of 60, his wife, who was a descendant of Washington Irving, had his body placed in the Irving plot in Tarrytown, NY.

We are, of course, indebted to Bolton for his bibliographic works. He was even a "professor of bibliography and bibliology" at George Washington University for a few years. But Bolton was a much more than a bibliographer; indeed, he was a complex individual. I am unaware of any Bolton biography, and my intent is to try and capture the true essence of the man.

Please contact JJBohning (E-mail: jjba@lehigh.edu) if you would like to submit an article, or if you would like to write an article but need suggestions for a topic. Let's make Bolton 'come alive' on the centennial of his death!

For more information about the Bolton Society: <http://www.chemheritage.org/OthmerLibrary/boltonSociety.htm>

Hospital then and now

Recently I was a patient in an acute medical ward. It was in some ways similar to those in which, half a century ago, I was a House Physician and, later, Registrar. I don't think I had been in such a ward since and certain differences were striking.

As a young doctor I once had bronchitis and was a patient in my own ward for a few days. I remember clearly kind old Sister Morison, motherly and very Scottish, who was often criticized because her ward was not as tidy as others and she did not align the sheets on every bed in the way that Matron wished. Having her most junior doctor as a captive patient in her ward was clearly a pleasure for her. I heard her calling out to the orderlies who were dishing out the lunch, "That's not good enough for Doctor. Cook her an egg!" She would visit me several times a day and often asked my advice: Should she give old Mrs So-and-so an enema? Did I think that Miss So-and-so's complaints could be cured with a little vitamin C? On one occasion she got me out of bed, fever and all, to look at a patient she was worried about.

This time it was all different, though in some ways much the same. There were still two rows of beds, one on each side of the ward, but the main ward was much smaller – only eight beds compared with 36 in the old ex-workhouse. Four a side instead of 18, yet in many ways the atmosphere was much the same. There seemed to be more people coming in and out, many more drugs and other procedures that were mostly new to me – endless pinpricks and measurements day and night, wires attached to machines and monitors, visitors at virtually any time, no identifiable Ward Sister and certainly no Matron. Apparent lack of authority was manifest when the old lady in the next bed shouted all night to the Virgin Mary and the nurse to whom I appealed said there was nothing she could do about it. Sister Morison would have dealt with it in a trice.

I never even managed to identify the House Physician, though I know there must have been one. In my day, we House Physicians spent so much time in the ward that we knew every patient and were known by them, which was what we were supposed to do. Many patients regarded this most junior member of the medical team as 'my' doctor and the consultants expected us to know virtually everything about them. This time there were quick visits from innumerable doctors and from others I wasn't sure were doctors, technicians or something else. They seemed to whizz in, perform an action or look at a chart or monitor, and whizz out again, all done pleasantly but exchanging hardly a word. I took exception to only one of them because she insisted on inserting an indwelling needle in the crook of my elbow so that it pricked me every time I moved my arm. Unsurprisingly, this became badly infected and I had to have antibiotics as well as the plethora of other drugs. I was lucky not to become attacked by one of the unpleasant antibiotic-resistant bugs that abound in modern hospitals.

There were no flashing lights – the means by which doctors were summoned before the days of pagers and mobile phones. No one asked about bowels – a topic that used to be a nursing obsession. The old thermometers in little test tubes attached to the wall above each bed had been replaced by quick clicks in the ear. It surprised me that no one took a history from me. In my youth taking the history was one of the most important and time-consuming medical procedures and was regarded as essential in every case but this custom seems to have

lapsed. The only thing approaching it came with a pleasant foreign nurse with poor English who arrived with a printed form and announced that she had to take a history from me. She then asked questions such as my name, address, date of birth etc., all of which were on my notes. She made no attempt to explore my symptoms or past health or to ask questions other than those listed on her printed form. One question was "Do you smoke?" "No." Then came "Do you drink?" To this my answer "Yes" provoked her astonishment. "You do?" she exclaimed as though she had never before heard of anything so disgraceful. She did not pursue the subject and so did not learn that my apparently terrible habit consisted of a modest and intermittent intake of dry white wine.

On the whole the nurses were extremely pleasant and efficient. In my day they had mostly been Irish (who were also pleasant and efficient) but now there wasn't an Irish accent among them. They all seemed to be either local girls (with a few boys) or foreigners, mostly Filipino, and most of them seemed to understand the complicated machines to which I was wired, which was more than I did. They also took blood, which in former days they weren't allowed to do – it had to be done by a doctor. And there seemed to be innumerable technicians seeking blood or measurements.

In my old hospital I looked after a men's ward as well, identical in size and layout. There was one next door to this ward, too, and it was very quiet. My male patients had been more boisterous than the women and they loved a show. I remember one dramatic incident with particular clarity. In the centre of each ward was an open fire that burned into a chimney suspended over it. (I'm sure such a thing would not be allowed today.) It so happened that the patient in the corner of the ward was an ancient retired admiral who was quite a wag. The other patients loved him. One day he got out of bed and reeled, singing, down the ward, amid cheers and clapping from both sides. He came to the fire and, before a nurse could stop him, began to pee into it. The subsequent hissing and clouds of steam evoked even louder cheers from his fellow patients and some panic from the nurses. Then the old boy shouted "God Save the King!" – and fell down dead.

The food in the modern hospital was infinitely better than in the old days, and was individually chosen and ordered by each patient. There was fresh fruit, yoghurt and other 'healthy' foods that never appeared in the days of 'one dish for all', which was mostly stew and stodge. I remember an incident when doctors were called urgently to the hospital kitchen, where the hospital chef, a slummy, scruffy person, had collapsed and fallen backwards into the fish stew. He was found to have syphilis, which put us doctors off our food for a while. Syphilis is now rare but I wonder whether such a thing (perhaps due to HIV) could happen today.

My stay in the modern hospital was an interesting experience. Overall I think I was well treated and I went home sooner than would have been allowed earlier and probably in a healthier state. I carried with me a largish bag of assorted drugs, almost none of which existed in the days when I worked in such a ward – modern 'miracle drugs'?

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Macabre interests at the Manchester Unit

The retention, storage and display of human remains are increasingly gripping the attention of those working in ethics, law and the arts. Two projects recently commenced at the Manchester University Wellcome Unit for the History of Medicine seek to set these debates firmly within their historical and sociological contexts. Central to both are the processes of appropriation and use of human tissue, and the reactions invoked. They thereby seek to contribute to a growing body of scholarship on the body as object exemplified by Ruth Richardson's *Death, Dissection and the Destitute* (new edition, 2001). The Manchester

capitals of London and Edinburgh but in major cities such as Glasgow, and of course Manchester. The recent turn to laboratory practice in the history of science, technology and medicine can usefully be extended to museological sites. Accordingly, Sam studies their curatorial work – including preparation, preservation and articulation methods – and compares and contrasts their classification, cataloguing and display techniques between sites and across time. Acquisition routes leading to and from the collections connect them to each other and to the wider museum culture. In this respect, of course, the project engages with the 1832 Anatomy Act, its sordid background and its consequences.

Collections of human remains were used in a variety of ways by a range of groups, for teaching, research and sensation. Utilizing the historiographical methodology of museum and art gallery studies, Sam

studies their modes of display, looking particularly at the relationship between arrangement and visitor constituency. In hospital museums, for example, the collections presented a series of interlocking bodily systems in a range of media: the healthy body overlaid with the pathological and comparative, in jars, in wax, and on paper. In the early 19th century these spectacles were viewed not only by the staff and students of the hospitals, but by a range of interested men of science, travellers, and the morbidly curious, invoking as much wonder and awe as they did horror and disgust. Access criteria changed over the course of the century, and the



Above: Image from the catalogue of the Liverpool Museum of Anatomy, 1877.

Unit is an ideal site for such studies, given John Pickstone's interest in museological STM, Ian Burney's work on autopsies and clinical pathology, the Unit's strengths in recent medical technology and the University's new Centre for Museology. Moreover, both projects have a considerable local focus, Duncan Wilson's concerning the growth in the huge scientific and financial enterprise of human tissue research in the north-west, and Sam Alberti's through the historical study of the University's pathological collection.

These local aspects, however, are embedded within broader studies. Alberti's postdoctoral project engages with the history of collections of anatomical and pathological objects, studying of a variety of 'museums' in 19th-century Britain – an era of intense interest in displays of human remains, heterodox and orthodox. Included within his remit are not only collections at the Royal Colleges, medical schools and hospitals, but also those of commercial anatomy museums and freak shows; not only in the

audience numbers decreased – for hospital museums at least – but the collections nonetheless continued to play a vital role in education, diagnosis and research. Such sustained relevance was maintained by the continual process of re-classification, for example using new micro-histological techniques toward the end of the century. The specimens became smaller as the collections grew larger.

A microscopic technique developed in 1907 that now underlies much basic biomedical research is the focus of Duncan Wilson's PhD. He shows how scientists' increasing use of human tissue and cells as an *in vitro* experimental body – termed, 'tissue and cell culture' – highlights many major facets of biomedical science in the last century, and also the continued opposition to appropriation of human material. Given its vast importance to much recent, and ongoing, biomedical research, there is nevertheless little material currently in existence surrounding this enterprise. Given too, that many commentators have questioned the

ethical probity of obtaining, exchanging, and patenting human tissue within the biotech industry, this absence is all the more surprising.

Manchester offers an ideal site for Wilson's project. Culture techniques have underpinned, and continue to be used in, numerous high-profile research projects within the city, in a variety of academic, medical and commercial settings. Drawing on evidence to be obtained from interviews with researchers in the field of culture research from the last 40 years, the main body of this thesis will be concerned with the growth in culture techniques in Manchester, charting, as the narrative progresses, how the use of these 'technologies' changed concomitant with institutional shifts, such as commercialization and patenting of human material. One cannot, however, consider the growth of such a technique without noting the long

history of fervent opposition to scientific use of human tissue for research purposes. Recent events, such as the repugnance toward retention of bodily material at a number of British hospitals – a controversy that has its epicentre in the north-west – are testament to the ongoing nature of this opposition. Wilson aims to show how long-standing social concerns vary locally, what the culturing of human tissue adds to long-standing disputes, and how research practice and policy reacts to public opprobrium.

Sam Alberti is a postdoctoral fellow and Duncan Wilson is a doctoral student. Both work at the Centre for the History of Science, Technology and Medicine and Wellcome Unit for the History of Medicine, University of Manchester.
(E-mail: sam.alberti@man.ac.uk; duncwils@hotmail.com)

The Wellcome Trust Centre for the History of Medicine at UCL



The Centre regularly attracts scholars from all over the world, working at varying levels on a wide variety of topics. Some of those based at the Centre from March through August include:

Dr Poonam Bala (Case Western Reserve University, Cleveland, OH), *Medicine in Bombay: Policies and Perspectives in 18th- and 19th-century British India*;

*Professor Robert Baker (Union College Schenectady, NY), *Before Bioethics: American Medical Ethics from the Colonial Period to the Bioethics Revolution*;

Dr Alvan Bregman (Rare Books Collections Librarian, University of Illinois at Urbana-Champaign), *The transcription, description and analysis of a manuscript commonplace book*;

Professor Gilberto Corbellini (University of Rome, 'La Sapienza'), *Medicine Evolving: An Essay on the Scientific Status of Medical Knowledge and Practice and the experimental approach and theoretical analysis of the immune responses against human malaria parasites in the first half of the 20th century*;

Dr Hugh Crone (Victoria, Australia), *An assessment of Paracelsus' position in history from the viewpoint of a practical scientist*;

Dr Genevieve Dumas (McGill University), *Practical writing in mediaeval medicine*;

Dr Stefania Fortuna (University of Ancona), *The Latin complete editions of Galen held at the Wellcome Library*;

*Dr Charu Gupta (University of Delhi) *Fractured Modernity: A Woman Ayurvedic Practitioner, Health and Indigenous Medical Practices in Colonial India*;

Professor Karl Holubar (University of Vienna) and Dr Stella Fatovic-Ferencic (Croatian Academy of Sciences and Arts), *Iconography in dermatology*;

Dr Shang-Jen Li (Academia Sinica, Taiwan), *Healing Bodies, Saving Souls: Medical Missions to 19th-Century China*;

Dr Anita Magowska (Karol Marckinowski University of Medical Sciences, Poznan, Poland), *A comparison of the development of bioethics in Poland and the UK in the 20th century*;

*Dr Javier Moscoso (University of Murcia) *The History of Pain* (via a WT travel grant);

Dr Shubhada Pandya (Mumbai, India), *The development of public health work in leprosy in India* (via a WT travel grant);

*Professor Kim Pelis (Uniformed Services University, Bethesda), *The physiological conceptions and clinical treatments of shock (1815–1880)*;

*Dr Neshat Quaiser (Jamia Millia Islamia, New Delhi), *Medicine and the Public Sphere in Colonial India: Unani's Encounter with Modern Medicine*;

*Ms Christelle Rabier (University of Paris, I 'Pantheon-Sorbonne'), PhD Thesis: *Writing, publishing and reading surgical techniques*;

Dr Ramirez-Hernández (The National Institute of Cardiology of Mexico, Ignacio Chávez), *The heart as a symbolic organ*;

Dr Serap Sahinoglu (Turkey), *The development of reproductive technologies in our time and their impact on women's health*;

Dr T V Sekher (Institute for Social and Economic Change, Nagarabavi, Bangalore), *The development of hospitals and Western medicine in princely India, c1830–1930*;

Professor Tudor Kalinga Silva (University of Peradeniya, Sri Lanka), *The history of malaria control in colonial Ceylon*;

Dr Irina Srotkina (Institute for the History of Science and Technology, Moscow), *Psychiatry at war – Russian origins*;

*Dr Tai Yong Tan (National University of Singapore), *The State, Military Mobilization and Medicine in British Punjab* (via a British Academy Visiting Fellowship);

*Professor Warren Winkelstein (Emeritus Professor, University of California, Berkeley), *Vignettes of the History of Epidemiology*.

(NOTE: Those marked * are at the Centre at the time of publication.)

Sally Bragg (with apologies to those of our visitors whose plans were not finalized at the time of writing)

Visitor and Programmes Administrator

E-mail: s.bragg@ucl.ac.uk

CALENDAR OF EVENTS

To add an event to the calendar page, please send details to the Editor (sanjoy.bhattacharya@ucl.ac.uk).

July 2003

- 11–13 Innovating Medicine: Medical technologies in historical perspective (Society for the Social History of Medicine Summer Conference)
University of Manchester
Contact: julie.anderson@man.ac.uk or
carsten.timmermann@man.ac.uk

September 2003

- 4–5 Exploring Diasporas: Nursing and Midwifery Cultural Migrations 18th–20th Centuries (International History of Nursing Conference) Wadham College, Oxford
Contact: belinda.whitty@wuhmo.ox.ac.uk
- 4–7 20th Congress of the British Society for the History of Medicine
Whiteknights Hall, University of Reading
Contact: Dermot@ouvip.com

June 2004

- 16–19 Anatomical Knowledge in the Ancient World: From Prehistory to Antiquity (Society for Ancient Medicine Conference)
University of Birmingham Medical School
Contact: R.G.Arnott@bham.ac.uk

Wellcome Library stocktaking closures 2003

As usual the Wellcome Library will close for two short periods during the summer months. Please check the dates below before planning a research trip.

Information Service (current biomedical collections)

Closes: 13.00 on Saturday 19 July Re-opens: 09.00 on Monday 28 July

History of Medicine collections

Closes: 13.00 on Saturday 26 July Re-opens: 09.45 on Monday 4 August

This information also appears on the Library's website at <http://library.wellcome.ac.uk>

Submissions to *Wellcome History*

The next issue of *Wellcome History* is due out in autumn 2003. Please send your contributions to Sanjoy Bhattacharya at the address shown. Preferably, contributions should be pasted into an e-mail and sent to the Editor (sanjoy.bhattacharya@ucl.ac.uk). Alternatively send the Editor a disk with a paper copy of the article. For more detailed instructions, visit the *Wellcome History* web pages at www.wellcome.ac.uk/wellcomehistory.

DEADLINE FOR SUBMISSIONS: 1 JULY 2003

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Web: www.wellcome.ac.uk ML-2883.p/3k/06-2003/JW