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A woman with a surprised expression is looking at a heart specimen held in a clear glass jar. The heart is yellowish and appears to be a human heart, possibly a transplant specimen. The background is a soft-focus portrait of the woman's face.

Face transplantation

Learning from the heart

AYESHA NATHOO

“Face transplantation – fantasy or the future?” asked a leading London plastic surgeon, Peter Butler, in the *Lancet* on 6 July 2002. “[A]lthough it may be technically and immunologically possible, should a face be transplanted? The concept may be shocking. [It]...appears to have come straight out of science fiction”.

Three years later, the world’s first partial face transplant took place in Amiens, France, closely followed by another in France and one in China. Even though the surgical know-how has been in place for years, face transplantation is a controversial act over which the medical world is divided and has provoked an intense public debate, facilitated and fuelled by the media. The very idea has unsettled deeply held notions of self and of the sanctity of the human body, and has called into question the aims and boundaries of biomedical science and technology. This article brings attention to some of the striking parallels between the controversy surrounding face transplantation and that of the first heart transplants in the late 1960s. The comparison also draws out distinctions between the two procedures in terms of their relationship to personal identity and criteria for success, and highlights the crucial role of the media in shaping the course of high-risk medical innovation.

Above:

Jennifer Sutton, a heart transplant recipient, with her old heart. Recent controversy about face transplantation has much in common with earlier debates about heart transplants.
Adrian Brooks

Cover:

The face has long been seen as both a site of anatomical interest and a focus of personal identity. By Jacques Fabien Gautier d’Agoty, 1748.

At a conference in 1964, two American pioneers of cardiac transplantation warned their colleagues that although human heart transplants were technically feasible, “perhaps the cardiac surgeon should pause while society becomes accustomed to the resurrection of the mythological chimera”. Three years later, the world’s first human-to-human heart transplant was performed in Cape Town by a

relatively unknown surgeon, Christiaan Barnard. The awe-inspiring news of 3 December 1967 made front-page headlines around the world, transforming Barnard and his patient, Louis Washkansky, into international celebrities. Over 100 similar operations followed worldwide within a year, but owing mainly to insurmountable immunological challenges, most of these patients died within months, sometimes days or hours, and a moratorium was called for the following decade. The unprecedented media coverage that the operations received contributed directly to undermining public trust in the medical profession and bringing about the moratorium. The late 1960s heart transplants permanently and radically transformed the relationship between medicine and the media.

These surgical feats challenge deeply held conceptions of identity, and hence constitute rich human interest stories

Forty years later, doctors are expected to associate with the media, to be held to account and to promote and participate in public debate over new technologies. They work alongside ethics committees, politicians, lawyers, powerful patient organisations and an interested and demanding public to whom the internet affords unprecedented access to information. Image management has never been more important, and hospitals, together with most other medical organisations, now routinely employ sophisticated public relations machinery. The heart transplants marked the start of this media-conscious era, when hospitals first started staging post-operative press conferences and when professional ethical codes that governed institutional and doctor anonymity were

broken down. Intimate details about heart-transplant recipients were printed and broadcast alongside their names and photographs, and media regulatory bodies ruled that the public's 'right to know' about new medical innovation and its subjects took precedence over patient confidentiality.

When in 2002 the London plastic surgeon Peter Butler declared his readiness and intention to transplant a human face, a Working Party of the Royal College of Surgeons convened to assess its viability. Their 2003 report advised against British surgeons proceeding with the innovation. In addition to potential technical and immunological drawbacks they identified a plethora of psychological, ethical and social concerns, including "the considerable challenge of media intrusion"; they worried that "recipients, their families, the donor's family and the transplant surgeons will be the subject of invasive press interest and publicity".

Indeed, when in November 2005 French surgeons conducted the first partial face transplant, on a woman whose nose, chin and lip had been torn off by her dog, even though French privacy laws protected the recipient's identity, intense media speculation and interest forced her onto centre stage. Following a blaze of publicity, the recipient, Isabelle Dinoire, first directly addressed journalists and photographers alongside the medical team in February 2006. As the *Independent* reported: "Isabelle Dinoire showed a new face to the world...To a storm of flash bulbs and camera shutters, she appeared before a two-hour press conference".

What has constituted 'medical news' has changed over time, indicating that newsworthiness is context-specific rather than inherent in an event. Nonetheless, there are specific elements to heart and face transplantation that contribute to their especially high news value. In particular, these surgical feats challenge deeply held conceptions of identity, and hence constitute rich human interest stories. In the late 1960s, journalists questioned Louis Washkansky about how he felt as a Jewish man to have the heart of a gentile woman, and Barnard's second transplant in January 1968 was highly controversial given the use of a 'coloured' man's heart for a white recipient in apartheid South Africa. Similar sentiments provoked journalists to question the psychological implications of Dinoire's acquiring someone else's face, especially after it transpired that the 'brain-dead' donor had attempted suicide.

Peter Butler responded to the issue optimistically: "Isn't it great that something good has come out of a tragedy?" He dismissed the possibility that Dinoire could be traumatised by the knowledge as being "hocus pocus and black magic", and assigned much of the public disquiet and misconceptions of face transplantation to the fictional content of the 1997 blockbuster *Face/Off* in which a criminal and an FBI agent exchange faces through surgery. In the film the recipients' faces look exactly as they did on the donors, which would not be the case in a real operation given different underlying muscle and bone structures. Moreover, in *Face/Off* the criminal and FBI

agent switch identities, with the effect of conflating personality and appearance. The widespread belief in physiognomy during the 19th century (with remnants of these ideas still found today) in fact demonstrates a far longer-standing cultural association between facial characteristics and personality.

Following the transplant, Dinoire herself reportedly experienced an "odd taste in her mouth", her chin sprouting hair for the first time, and a feeling of detachment from her transplanted nose. Numerous psychological studies have found that it is not uncommon for transplant recipients to feel their received organs to be endowed with personal qualities and characteristics of the donor. The medical anthropologist Lesley Sharp has demonstrated that such feelings are partly attributable to transplant surgeons themselves framing organs as both personalised and objectified parts. Organ donation is promoted using a dual rhetoric, whereby the 'gift of life' supposedly allows for the deceased to 'live on' in the recipient. The heart, which literally beats on in the new body, is personalised as the 'ultimate gift'. Although face transplantation is not life-saving, it is life-changing, and proponents use similar rhetoric.

Doctors are expected to associate with the media, to be held to account and to promote and participate in public debate over new technologies

Yet in medical discourse the heart is concomitantly merely a 'pump', devoid of meaning, that would otherwise be 'wasted' upon death. The success of the first heart transplant was judged exclusively on whether this objectified heart functioned in the new body. In the *South African Medical Journal* on 30 December 1967, Barnard described his "successful operation" (even though Washkansky was dead by the time the report was published). The editorial clarified: "the claim 'successful' can be used even at this early stage...no matter how short the further survival of the patient might be". The definition of success changed for subsequent transplants, lacking the status of 'firsts', and ultimately the highly publicised poor survival times resulted in *Life* magazine's cover story on 17 September 1971 denouncing "an era of medical failure...The Tragic Record of Heart Transplants".

For Dinoire, reacquisition of sensory and motor responses were critical to deeming her operation a success, as without command over actions such as eating and speaking, the face is but a mask. Dinoire's ability to articulate her press statement and sip water at the press conference were ostensible indicators of a successful transplant and a great photographic opportunity for the media; similarly, her ability to smile made headlines. But unlike the heart, aesthetics, in addition to function, is paramount to defining a successful face transplant, and a principal reason that facially disfigured people would be prepared to undergo such a radical procedure.

The philosopher and phenomenologist Drew Leder has usefully drawn attention to differences between the inner organs, such as the heart, buried deep inside the body, and those on the body's surface. While the role of organs of the viscera are pre-ordained, and are largely inaccessible and experientially absent when in working order, the surface organs are malleable, constantly responding to, acting upon and engaging with the outside world. The visually perceptible face is seen and judged by others, and indeed weeks after Dinoire's operation, her surgeon proudly declared that his patient had "been out in public without drawing stares"; the BBC's online news announced: "Face of woman passes public test". The ultimate marker of success is resuming functionality in the wider social context, the exceptional patient becoming unexceptional once more. As one of Dinoire's surgeons boasted the year after her operation: "She is totally integrated into society. She has a normal life at home with her two girls, and she hopes to get a job."

The forecast for facial transplantation is at present optimistic: Butler has been granted ethical approval to perform a full human face transplant in Britain, and

partial face transplantation looks set to continue. Long-term prospects, however, are unclear, given perpetual immunological challenges that could result in graft rejection. Transplanting body parts so intimately bound up with our notions of identity can also limit people's readiness to donate, and without donors there can be no recipients. The history of heart transplantation demonstrates that the public ultimately judge the worth of such controversial, high-profile medical techniques, and that the role of the media is critical; both fictional programming and factual reporting are influential sites of contesting images, rhetorics and judgements. Despite the differences in the media landscapes, technologies and clinical possibilities of today and the 1960s, the medical-media relationship remains all-important to our medical future.

Ayesha Nathoo is a Research Fellow at Clare Hall, University of Cambridge, and is affiliated to the Department of History and Philosophy of Science. Her book *Hearts Exposed: Transplants and the media in 1960s Britain* will be published in early 2009 by Palgrave Macmillan.

Manchester Wellcome Unit for the History of Medicine

MICHAEL WORBOYS

The Wellcome Unit for the History of Medicine at the University of Manchester was created in 1986 and has become one of Britain's largest research groups in the subject. It is unique in being embedded in a history of science and technology/science communication grouping – the Centre for the History of Science, Technology and Medicine. In 2006 the Unit gained a Wellcome Trust Strategic Award for a programme of research, outreach and other activities on the theme of Medicine and Modernity.

The focus of the Unit's research and teaching is the history of medicine since 1800, with particular emphasis on the biomedical sciences and technologies, histories of disease, recent and contemporary history, and Manchester and the North West of England. However, staff also work on many other topics, and the Unit has particular expertise on Germany and southern Africa. Research on recent and local history is exemplified in the new work of Stephanie Snow on the NHS in the Manchester region, which is being developed with the National Primary Care Research and Development Centre. Two emerging areas of work are the molecularisation of medicine and animal medicine: Miguel Garcia-Sancho is working on the former and

Robert Kirk and Duncan Wilson, with Ed Ramsden (Exeter) on the latter. Both topics are benefiting from the Unit's location in the Faculty of Life Sciences and there is much potential for future collaboration.

The Unit currently has ten postdoctoral fellows – the largest group in Britain – and is proud of the record of its researchers in gaining posts in the history of medicine in this country and abroad; recent appointments include Sam Alberti (Manchester), Fay Bound Alberti (Lancaster), Andrew Gardiner (Edinburgh), Vanessa Heggie (Cambridge), Aya Homei (Cambridge), Ed Ramsden (Exeter), Helen Valier (Houston) and Abigail Woods (Imperial College London). We have a strong group of full- and part-time doctoral students, whose training and research gains from association with students in the history of science and technology, social and cultural history, and the social sciences, as well as visiting students. Their thesis topics follow Unit research themes – for example, Alice Nicholls on medical technologies and Ian Miller on histories of disease. We have particularly enjoyed hosting Association of Commonwealth Universities split-site students from the University of the West Indies, such as Debbie McCollin, who is completing a thesis on health policy in Trinidad and Tobago, 1938–62. The Unit has a Senior Visiting Fellow Programme: Professor Warwick Anderson (Sydney) came last year and spoke on his study of Kuru, and Professor Susan Lederer (Madison) will be our Fellow this year.

The Unit offers history of medicine courses as electives to undergraduate students in all four of the University's faculties, and also has courses that are tailored to particular degree programmes, such as 'Bioethics: Issues in the history of biology, medicine and society for biologists' and 'Madness and Society' for psychologists. Innovative new courses include 'Baker Street to CSI: The history of forensic medicine', 'Health and Disease in Africa' and 'Key Issues in Contemporary Medicine'. The Unit also has an MSc in the history of medicine, which can also be taken as an intercalated degree by medical students.

The Unit has an active outreach programme organised by Emm Barnes. We have been working particularly to seek out and meet new audiences face to face by staging events in local museums and colleges. For example, in April 2006, along with Eleanor Lanyon, the outreach

officer for the Wellcome Library, we coordinated a history of medicine exhibition stand at 'Engaging Science', a three-day Wellcome Trust conference in Manchester. This combined demonstrations of re-enactments or re-creations of medical conditions and procedures from earlier centuries with object-handling opportunities using items from the Manchester Medical School's collection. During the lunch breaks, we confronted 300 conference attendees with Julia Hyland's reconstructions of gangrenous and burned limbs, and answered many requests for copies of Unit's educational packs.

Professor Michael Worboys is the Director of the Wellcome Unit for the History of Medicine, University of Manchester.

The history of intensive care in Britain

ALICE NICHOLLS

If searching for a symbol of modern medicine, few things could compete with the intensive care unit – the assembly of high-cost monitoring and life support technologies, specialist medical and nursing care, and life-and-death decisions involving practitioners, patients and their families. So it is surprising that there is no book-length history of adult intensive care. The British story is one of disparate and ad hoc development, with competing specialist interests, and this is what I intend to examine in my doctoral research.

Tensions in the emerging speciality can be seen in the fate of a simple instrument for measuring pupil diameter given to delegates at the First World Congress on Intensive Care in 1974. On first sight it would appear to be an incidental item, one of those ephemeral things that make their way into conference delegates' packs, particularly given its resemblance to a 15 cm ruler. There is no reference to it in the minutes of the Congress Local Organising Committee, nor the Congress report published in the *European Journal of Intensive Care Medicine*. But one is now held in the collections of the Science Museum in London. Is it curious that it should be preserved there?



Right:
Intensive care unit,
1981.

It is historic beyond its value as a souvenir of the Congress. It was donated to the Science Museum by the anaesthetist Dr Alan Gilston, founder of the Intensive Care Society, and anaesthetist for the first UK heart transplant. It is highly likely that he was responsible for its distribution at the Congress. First, he was the initiator and secretary-general for the Congress, so had the status and access to accomplish such a task. Secondly, the pupil gauge was one of his own particular interests – “a simple device for measuring pupil size” featured in his 1971 textbook, *Cardio-respiratory Resuscitation*. It was more rudimentary in design, and had only a brief text reference. The Congress model was named after the hospital where Gilston worked – the National Heart Hospital in London. By 1980 it was becoming commercially available, with Gilston reporting in the journal *Anaesthesia* that MIE, the makers of the Congress pocket gauge, would supply the instrument on request.

Life support technology enabled life to be prolonged indefinitely, leading to changing conceptions (and definitions) of death

What is surprising is that the millimetre measurement of pupil diameter was by no means standard clinical practice. Descriptive terms such as ‘small’, ‘moderately constricted’ or ‘dilated’ were commonly used, and nurses were instructed to sketch the actual pupil size in patient notes. Gilston was frustrated by this lack of accuracy, and sought to emulate his neurological colleagues, who were recording pupil size in millimetres on consciousness assessment charts.

Teasdale and Jennett’s practical scale for assessing the depth and duration of impaired consciousness and coma, the Glasgow Coma Scale, was published in the *Lancet* a fortnight after the World Congress. The measure of pupil size was not part of the score, but neurological assessment forms had a range of millimetre circles printed along the margin, which were increasingly used after the

introduction of the Glasgow Coma Scale. Innovation followed, with nurses fixing the pupil scale to disposable tongue depressors to enable it to be held to the patient’s eye for direct comparison.

The pocket pupil gauge, and its context as described, can be used to demonstrate the tensions in the development of intensive care in Britain, which I intend to explore more fully in my research. First, as a tool for assessing clinical status it is indicative of the profession’s need for objective measures with which to make difficult life- and-death decisions. Life support technology enabled life to be prolonged indefinitely, leading to changing conceptions (and definitions) of death. Technologically assessed criteria were seen as more reliable.

Secondly, the use of specialised instruments in standardised procedures was also important for establishing the status of intensive care medicine. If neurologists, anaesthetists, surgeons and nurses were all involved with the care of patients in intensive care units, what was the role of the intensivist? Such tools represented a more scientific approach to the pathophysiology and care of the critically ill.

Finally, the pocket pupil gauge also signifies the tensions between high- and low-tech, and the true nature of intensive care medicine. Countless descriptions of intensive care units emphasise the sights and sounds of life support. But nursing histories seek to promote the importance of observation and vigilance, arguing this is what is intensive about intensive care. The pupil gauge had a role in the monitoring of vital signs, informing the life and death decisions.

Gilston’s promotion of the pocket pupil gauge to the Congress’s 2430 delegates, from 68 countries, must ultimately be deemed unsuccessful – he was still lamenting the continued use of descriptive terms for pupil size well into the 1990s.

Alice Nicholls is a doctoral student at the Wellcome Unit for the History of Medicine, University of Manchester.

The national stomach: abdominal illness in Britain, c.1800–50

IAN MILLER

Alongside the infectious diseases and epidemics that ravaged 19th-century Britain, there existed numerous debilitating chronic conditions that have received much less attention from medical historians. Physicians continued to be regularly confronted with dyspepsia or abdominal ulcers that could not be explained through emerging scientific-medical discourse or cured by its advances.

The location of such conditions in unreachable, internal bodily areas made them highly problematic, hindering diagnosis, understandings and treatment. The first part of my doctorate, funded by the Bardhan Research and Education Trust, asks why early-19th-century doctors stressed the importance of the stomach’s health to such an extent that indigestion was persistently described as Britain’s ‘national disease’.

Digestive disorders typically acted as significant chronic health problems that captured the public imagination and fed a demand for popular literature on indigestion.



Physicians treated sufferers over many years, if not throughout the majority of their adult life. Furthermore, the patient experience of these conditions presented medical challenges of a vastly different nature than the infectious diseases most regularly discussed by historians of the 19th century. Contemporary medical writers regularly argued that in diseases such as fever there was at least either a quick recovery or sudden death, while smallpox and measles attacked the patient only once. However, there was little hope for the chronic dyspeptic, with a condition that would neither kill nor heal.

British physicians found little of value in the new understandings of disease coming from the post-mortem room or laboratory, and continued to rely on symptomatic descriptions and holistic concepts of abdominal health. In their writings physicians focused upon their knowledge of humanity's intricate relationship to its natural and artificial environments. The popular work of doctors such as John Abernethy (1764–1831) in promoting the importance of the healthy stomach increased popular anxiety over the consequences of the unhealthy stomach. His model of the human body, loaded with sympathetic relationships, suggested that the misused stomach might lead to problems as wide-ranging as blindness, skin conditions and insanity. The stomach acted as the central point of the holistic body.

Above:

Man suffering from indigestion, represented by little demons. By George Cruikshank (after Alfred Crowquill), 1835.

Popular texts rarely separated the individual and national aspects of the disease, as they appeared to be closely associated with rapidly expanding urban areas.

This allowed contemporaries to tackle wider socio-cultural problems by focusing on the modern, 'natural' individual negotiating his or her stomach's health in an 'artificial' urban, civilised life. The idea of the 'natural stomach' complemented that of the 'national stomach', encouraging ideas that food consumption should take into account the requirements of the natural body. The discovery of strawberries in a preserved prehistoric man might imply that this food was appropriate for the British digestive system. Stomach illness reflected wider themes including culture, gender, nationality and race, which explains why some blamed it on the popularity of German romantic drama or novel reading.

The maintenance of these constructions of the body came under threat with the emergence of more experimental, laboratory-based approaches at mid-century. However, these were not always popular in Britain. A wide range of new technologies including stomach buckets, balloons and tubes designed to reveal the interior of the stomach, and to aid chemical analysis, did little to convince the physician that traditional diagnosis and therapy should be abandoned for new, potentially dangerous, time-consuming or over-technical methods. Analysis of the minute chemical conditions of parts of the stomach proved difficult to reconcile with established understandings of the stomach as the centre of an intrinsically holistic body.

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Recollections of organisational change in the NHS: the Manchester experience, 1980–2007

STEPHANIE J SNOW

For the first 25 years or so of the National Health Service its structures and organisation remained unchanged. But from 1974 onwards, structural change became, and still remains, the major political mechanism for reforming health services.

Yet during these years of turbulence within the NHS there has been little attempt by policy makers to evaluate the consequences of reforms, nor to turn to the history of the NHS as a resource. There is a wealth of research by health policy analysts, sociologists and historians on the shifts at national level but little work has addressed the effects of successive change on local functions and ground-level services.

To explore change in the NHS from a local perspective, a multidisciplinary team (Professor John Pickstone and I from the Wellcome Unit and Professor Steve Harrison and Dr Kath Checkland from the National Primary Care Research and Development Centre) turned to oral history as the main data-gathering tool and to clinicians and managers who had played key roles locally, and in some cases nationally, as sources. We gathered the recollections and insights of those who had worked in and around Manchester during this period on the ways in which organisational change had shaped and reshaped the work and services of the NHS across the locality. The sample group was small; nevertheless, the consistency across experiences was strong enough to produce some initial findings and build a framework for a larger project.

Manchester GPs believed fundholding gave them increased authority to negotiate services for their patients with hospital consultants

Our witnesses were unanimous on the detrimental effects of frequent reorganisations. The lack of foresight on the part of policy makers and the sense that the service was simply moving in circles created intense frustration. In some cases, reorganisations that restricted individual freedom to perform effectively made resignation seem the only option. More positively, we found that some changes had produced both anticipated and unanticipated benefits; the strongest example was in relation to primary care. Fundholding was launched with the *Working for Patients* White Paper in 1989, together with health authority purchasing and NHS trusts, by the then Health Secretary, Ken Clarke. Entry to the GP fundholding scheme was discretionary and it came



under heavy criticism for creating a two-tier system that penalised patients of non-fundholding practices. However, our Manchester GPs believed fundholding gave them increased authority to negotiate services for their patients with hospital consultants. Some GPs were stimulated to form cooperatives and work across localities, for example to provide out-of-hours cover. Such innovation brought unintended benefits in the form of improved communication between GPs, as well as improved services for patients.

Not unexpectedly, perhaps, the strongest finding was the way in which the history of health services in a locality shapes its future directions – the contrasting histories of the Manchester Royal Infirmary and Salford's Hope Hospital illustrate this well. Manchester Royal Infirmary was one of the first hospitals in the UK to become a trust, despite medical opposition. It seemed to embrace the new culture of the internal market, seeking to establish public transparency from the outset; it gained a Charter Mark in 1996 and an Investors in People award in 1998. Hope, however, became a fourth-wave trust. The hospital had been keen to move to trust status earlier, but the local Labour council was highly sceptical of the political philosophies that drove the internal market and had the clout to delay Hope's bid to become a trust. The political history of the locality was a crucial determinant of the hospital's later development.

Such findings resonate with the broader arguments and themes in current health policy and contemporary history debates. Yet the 'voices' of our clinicians and managers also reveal the new insights that can be gained from studying the effects of nationally driven reforms at local level; locality, the evidence suggests, exerts a stronger and more decisive influence on the implementation of national policy than has hitherto been acknowledged. At the very least, it underpins the need for a more extensive study into the effects of nationally driven policy change and reorganisation of health services at local level.

Stephanie J Snow is a Wellcome Trust Fellow at the Wellcome Unit for the History of Medicine, University of Manchester.

Above: GPs say that NHS reorganisations have increased their administrative workload.

Managing morals: animal experimentation and animal welfare in Britain, c.1947–86

ROB KIRK

Accounts of the historical relationship between animal experimentation and the moral debates about it are structured by the premise of an incommensurable dichotomy separating 'science' and 'antivivisectionism'. My work, which I am pursuing through a Wellcome Trust-funded fellowship, explores the hypothesis that this dichotomous reading is unhelpful and that it is more useful to think of laboratory practices and moral debates as co-constituted over time.



Historical analysis of animal experimentation is as divided as the debate over the use of laboratory animals that it seeks to explain. Controversies over animal experimentation in Victorian England have attracted much historical attention, but relatively few attempts have been made to trace their development through the 20th century. In contrast, studies of the material role of animals in knowledge production and laboratory practice focus on the 20th century. Consequently, scholarly literature tends to address either the debates outside the laboratory or the material agency of animals within the laboratory. My work seeks to overcome this aberration in order to analyse the importance of animal welfare as a material practice within laboratory science in Britain, c.1947–86.

In 1940s Britain, animal-dependent experimental science was in crisis. Wartime disruption caused a collapse in the availability of animals, precipitating a wider problematisation of the reliability of animals then available for experimentation. As the Medical Research Council responded by establishing the Laboratory Animals Bureau in 1947 (tasked with the regulation and standardisation of laboratory animal production), another organisation, the Universities Federation for Animal Welfare (UFAW), successfully appropriated these uncertainties. An independent animal welfare society, UFAW sought to decrease the “sum total of suffering” endured by laboratory animals by asserting that the experimental reliability

of animals was directly related to their welfare. By amalgamating experimental necessity with ethical concerns UFAW established a dialogue with scientists that produced *The UFAW Handbook on the Care and Management of Laboratory Animals* in 1947. This still-important text became an essential scientific reference work despite being the product of an animal welfare society. It did so by providing standardised approaches to the husbandry of common laboratory animals. *The UFAW Handbook* at once answered the experimental need for standardised practices and embodied the argument that the consideration of animal welfare was a scientific necessity as well as moral duty. Thus the separation of moral concerns for animal welfare from the material practice of laboratory experiment appears to be more a historian’s artifice than a reality.

Promoting biomedical technologies as an ethical alternative to laboratory animals shattered antivivisectionist identity

My research traces the impact of UFAW’s intervention, exploring how moral, economic and experimental necessity were negotiated, related and reconfigured over subsequent decades, culminating in the Animals (Scientific Procedures) Act 1986. I explore how this legislation came to operate on a cost–benefit analysis that manages subjective values (moral concern, suffering) and equally subjective potential gains via an economic, calculative model. As a result ethical value was increasingly measured by the extent to which an experimental procedure complied with the ‘3Rs’: the reduction of animal numbers utilised for experiment, the refinement of procedures to minimise suffering, and the replacement of animals in experimentation. The 3Rs were first articulated in 1959 as the codification of UFAW’s project to develop a “humane experimental technique”.

That said, I do not wish to merely reconstruct how scientific practices and discourses of animal experimentation responded to changing socio-cultural understandings of animal welfare. On the contrary, I explore how scientific practices and discourses were formed by and informed changing socio-cultural understandings of animal welfare. For example, the impact of the 3Rs was first felt within the antivivisection movements, not the laboratory. In the 1960s antivivisectionist societies enthusiastically embraced the idea of alternatives to laboratory animals. Understood as a means to restrict laboratory animal use in the short term and to abolish it in the long, developing replacements healed the historical rift between abolitionists and restrictionists. However, by seeking a common ground with science, antivivisectionist societies opened a new rift.

Above:
Laboratory animals embody issues of suffering and of science.

The practices of the societies now conflicted with the traditional discourse of antivivisectionism, which portrayed biomedical science and its reductionist worldview as 'evil' and 'dehumanising'. Promoting biomedical technologies such as tissue culture as an ethical alternative to laboratory animals shattered antivivisectionist identity, opening up a space to be filled in the 1970s by animal rights discourse.

By reconstructing how new laboratory practices transformed subjective values (e.g. welfare, suffering)

into manageable technological factors, and tracing the origins and wider socio-cultural influence of these practices, this research provides original historical insight into the present position of animal experimentation in Britain and the debates that surround it.

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From rheumatism epidemiology to genetic engineering: the Manchester story

MIGUEL GARCÍA-SANCHO

Since completing my PhD on the history of sequencing and genomics at Imperial College London, I have been working on a six-month Wellcome Trust-funded project on the transformations of connective tissue research at the University of Manchester.

With John Pickstone and staff from the Faculty of Life Sciences, I am studying the introduction of recombinant DNA by a group of researchers first working on rheumatism and then, more generally, on connective tissue since the late 1940s. The group moved from combining epidemiology with protein chemistry to introduce cloning, *in vitro* synthesis and bioinformatics techniques during the mid-to-late 1980s. This introduction coincided with the emergence of the cell matrix as the concept designating their research area.

The study of post-1970s biology has traditionally focused on the creation rather than the adoption of the recombinant DNA techniques. Historians have analysed a few leading institutions such as Cambridge, Harvard or Caltech, stressing how their new methods to alter the structure of the genetic material increased an ongoing tendency towards molecularisation in biomedicine. There is, nevertheless, little research on how this molecularisation developed in other institutions. The University of Manchester offers a suitable case study for such an investigation, since the life sciences there – as in many provincial British universities – experienced a dramatic expansion during the 1980s.

By combining historical methodology with quantitative social sciences techniques, we have traced the genealogies of researchers, funding and publications around the Manchester connective tissue group. We have, first of all, retrieved the relevant data from the university archives – staff, grants and publication lists – and designed social networks visualising the circulation of people, money and co-authorship around the Manchester group. These statistical pictures have informed further investigations including oral histories and literature analysis.

The results show the complexity of the introduction of recombinant DNA into Manchester. The techniques came not directly from Cambridge or Caltech, but from a wide range of leading institutions on connective tissue in the USA and Europe – e.g. the Jefferson Medical College or the Kennedy Institute in London. This introduction frequently followed sabbaticals or other forms of stay by the Manchester researchers, as well as collaboration in the form of joint papers. As the recombinant techniques were introduced, the Wellcome Trust emerged as the main funding body of the Manchester group and sponsored a new institution to host it: the Wellcome Centre for Cell-Matrix Research opened in 1996 and still operates.

There may have been a two-directional interaction between the recombinant techniques and already existing biological problems such as connective tissue diseases

The Manchester project, at a methodological level, shows the utility of combining historical and social science techniques, something already done by Peter Keating and Alberto Cambrosio, as well as other colleagues at the Centre for Research on Socio-Cultural Change and the Manchester Centre for Innovation Research, with whom we have collaborated. The network maps were shown to the matrix biologists during the interviews and eased the reconstruction of connections that were difficult to evoke. They, hence, allowed patterns to be seen and avoided the simplifications in which a history exclusively based on oral testimonies would have incurred. This is especially useful in a case such as Manchester, where there is little secondary literature.

The Manchester case, secondly, complements the literature on molecular biology and its impact after the 1970s. It especially qualifies the scholarship on molecularisation by Soraya de Chadarevian, Lily Kay and Pnina Abir-Am, among others, by suggesting that

there may have been a two-directional interaction between the recombinant techniques and already existing biological problems such as connective tissue diseases. Recombinant DNA, in this regard, was adapted to connective tissue research by other institutions prior to its introduction in Manchester. Our Manchester project, therefore, constitutes a suitable model for the study of the transformation of the life sciences after the recombinant era. We hope that similar investigations are

conducted in institutions adopting rather than creating the recombinant techniques. Only this way will a complete picture of the history of post-1970s biology emerge and an assessment of its revolutionary nature be feasible.

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Driven to destruction: animal suicide and the human condition

DUNCAN WILSON AND ED RAMSDEN

The possibility of ‘animal suicide’ is contentious, and this has interesting consequences for establishing the animal–human boundary. Through the study of both popular representations and scientific debates, our research establishes the importance of animal self-destruction to understanding (and governing) human and animal behaviour. Indeed, it becomes apparent that conceptions of animal suicide, and its acceptance or denial, have long been used to ratify positions on human suicide and, in so doing, on human nature itself.

In Roman culture, suicide was celebrated as death for a higher ideal – for virtue, patriotism or faith. The cases of animal suicide documented in contemporary studies of the natural world, such as Claudius Aelian’s *De Natura Animalium* (third century), reflect this valorisation. Here, animals willingly sacrificed themselves due to grief and shame, or chose suicide to escape capture. The means used to achieve self-destruction, such as starvation and immolation, were congruent with patterns of human suicide – as is the case in other periods.

Lord Byron and other Romantics popularised legends of scorpions that stung themselves in the back when surrounded by fire

In contrast, as the Christian Church sought to quell the suicidal impulse during the sixth century, it helped establish legal strictures based upon its absence in animals. To Thomas Aquinas, suicide was contravention of the natural desire for “everything to keep itself in being”. The only instances of animal self-destruction acknowledged in this worldview were symbolic, and embodied Christian virtues of self-sacrifice.

Throughout the 19th century, supposed instances of animal self-destruction were deployed by various

social bodies. For instance, in order to redeem the Stoic view of suicide as a rational, even heroic, act, Lord Byron and other Romantics popularised legends of scorpions that stung themselves in the back when surrounded by fire. Later in the century, scorpion suicide became one vehicle through which scientists advocated or dismissed claims to animal reason – and these arguments often played out in popular newspapers such as the *Guardian* and the *Pall Mall Gazette*. At the same time, popular periodicals carried stories of self-destruction in domestic animals that were again framed as evidence of animal intelligence and, specifically, as a lamentable consequence of human mistreatment. This latter claim ensured that animal suicide became publicised by humane organisations such as the RSPCA, as well as psychiatric campaigners who claimed that suicide in humans and animals was evidence of the pathological “fury and mania” that followed persecution.

From the 1880s, the archetypal animal suicide shifted. Writers such as Emile Durkheim began to emphasise the social and unconscious factors that underpinned human suicides. These newer studies shifted focus from the individual to society and, now, *crowds* of unthinking animals featured in scientific and popular discussion – be they shoals of fish dashing themselves off boat hulls, beaching whales or the hordes of lemmings known to periodically march across the Norwegian planes to perish in the sea.

An interest in the lemming intensified in the 1930s: the Depression, totalitarianism and the inexorable march towards war seemed to reveal a human propensity for self-annihilation. Here the lemming not only symbolised the ultimately self-destructive Nazi urge for *Lebensraum*; for the psychologist and camp survivor Bruno Bettelheim, it embodied Jewish inertia, or rather, a Freudian “death instinct” directed against the self. For Bettelheim, mass behaviour in the camps revealed a broader threat to individual autonomy from depersonalised mass society. Individuals sacrificed their



Right:
Reports of pelicans tearing their own flesh to feed their young became a common allegory for Christ’s self-sacrifice, as evidenced by the coat of arms of Corpus Christi College, Oxford.

psychic selves for physical preservation: people “stopped acting on their own,” becoming withdrawn, fatalistic and childlike.

While Bettelheim’s use of the lemming was metaphorical, others went further, believing animal experimentation to offer insights into human psychopathology. For Harry Harlow, animals could be induced to self-harm by traumatic and stressful situations. Others retained a focus on the society and system: the work of John Calhoun at the National Institute of Mental Health in the 1960s and 1970s correlated a rise in destructive behaviour – violence, withdrawal and sexual

deviance – with population density and crowding. Calhoun considered his pathological rodents to be comparable to both lemmings and human beings in the urban environment. This was no suicidal animal in the image of the scorpion or dog, dying in defiance, anger or grief. This was mass suicide devoid of individuality and free will. As such, for many scientists and writers, the lemming has continued to epitomise the human condition in late modernity.

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Health and a colony in transition: Trinidad and Tobago, 1938–62

DEBBIE MCCOLLIN

My doctorate focuses on health and healthcare in Trinidad and Tobago from the late 1930s to independence in 1962. While there has been an explosion of research on the medical history of many parts of the British Empire, the West Indies have been relatively neglected, yet the many islands provide an interesting context for studying colonial medicine; for example, the possibilities of comparison between British, Spanish, French and Dutch colonies, and relations with the USA and other American neighbours.

My study begins with the appointment of the West India Royal Commission in 1938 (commonly known as the Moyne Commission), the report of which irrevocably altered the course of healthcare for the British West Indies. Emerging out of imperial concerns in the aftermath of the region’s 1930s upheavals, the Commission aimed to assess the social and economic conditions in the West Indies, including healthcare. The Commission’s report, when eventually published in 1945, highlighted the issues for the medical system and healthcare reform in the colony. It urged action by the British imperial government and was critical of the role of local colonial authorities in perpetuating problems in health and social services. The extensive records of interviews undertaken for the Commission, with various individuals and groups involved in healthcare, and the reports of visits to numerous medical facilities, provide the foundation for research and a basis for understanding the changes in the two succeeding decades.

World War II saw the deterioration of social conditions and increasing challenges being placed on healthcare in the colony, but also a counter-movement of

information gathering and the beginnings of programmes that held the distinctive stamp of foreign involvement. One of the principal consequences of the Moyne Commission was the Colonial Development and Welfare Organisation, which played a large part in new initiatives through increased funding of medical and health programmes and exposure to international systems and experts, particularly in the fields of infectious diseases and laboratory services. As a result of this and the growing professionalisation of the medical system, Trinidad and Tobago experienced unprecedented changes in mortality and morbidity trends and in the size, function and acceptance of medical facilities, the construction and renovation of which exploded in the early 1950s.

My research looks closely at the neo-imperialist links forged by bodies such as the Colonial Development and Welfare Organisation and their encouragement of American medical interests in the colony. This raises the questions of how much this link was courted or resisted by the local health officials, and of its significance to the 1950s nationalist movements and its relations with indigenous medical traditions. My conclusion emphasises the progressive changes in the period, especially in the management of tuberculosis and malaria, and how Trinidad and Tobago became a leading regional force in healthcare and research. It asserts that the changes in the awareness, administration and focus of healthcare in this period were propelled by and thus are paramount to an understanding of all social, economic and political movements within the colony in the postwar, pre-independence era.

Debbie McCollin is spending a year at the Manchester Unit, as part of her doctoral studies, on an Association of Commonwealth Universities Split-Site Award.

The Importance of Medical History

ROHAN DEB ROY

A three-day international conference on 'The Importance of Medical History: Transnational and cross-cultural perspectives on a multi-faceted discipline' was organised in Mumbai in November 2007. It was generously funded by the Wellcome Trust and jointly organised by the SIES College of Arts, Science and Commerce, Mumbai, and the Wellcome Trust Centre for the History of Medicine at University College London.



Most conferences on the histories of medicine usually tend to focus on a definite period or a set of specific themes. This conference emerged as an exception. It provided a platform for leading historians of medicine to discuss methodological challenges and their possible resolutions. It appeared that 'histories of medicine', today, is an extensively expanding field. It could, therefore, be misleading to prescribe all-encompassing methodological guidelines for the discipline. Instead, the conference reflected on innovative possibilities of research by presenting an assortment of fascinating papers. The papers ranged from astrology in Early Modern Europe to the politics around AIDS in late 20th-century Brazil, from the reinvention of yoga in late 19th-century Europe to research on cancer in contemporary India, from the visual cultures of modern American medicine to the problems of translating Chinese medical texts in 17th-century Germany.

The first paper of the conference was presented by Karen Buckle (Wellcome Trust Centre at UCL); it argued that understandings of vision, sight and the eye in mid-18th-century England were shaped by the traffic of ideas between academy and industry. She showed how contemporary optical theory, natural philosophy, philosophy of perception and cognition informed the world of advertisements and pamphlets. By focusing on "a war of pamphlets" between competing opticians, she commented on the range of options available to the patients and customers. She argued that quotidian understandings of sight and vision were shaped by such interactions. A fascinating presentation by Lauren Kassell (Pembroke College, Cambridge) followed, on 'Astrology, Medicine and the English Casebook, 1500–1700'. She spoke on the overlaps and differences between the practices of medicine and astrology in that period. Astrologers and physicians compiled elaborate records of medical cases for a variety of reasons. She commented on the implications of such acts of recording, which provide curious insights on overlapping themes: medical market, emerging stereotypes of gender, patterns of narrating authentic 'facts', and assertions of professional credibility and legitimacy.

Sebastian Pranghofer (Durham University) spoke on 'The Visual Representation of Early Modern European Anatomy'. He commented on the frontispieces and illustrated title pages of medical and anatomical books published in 17th-century central and northern Europe. He suggested that these pictures revealed particular notions of the human body, and tried to show how these pictures legitimated anatomy and constructed the professional identity of contemporary anatomists. Harold J Cook (Director of the Wellcome Trust Centre) spoke next. He focused on the first publication of Chinese medical works in Europe in the late 17th century. He has studied how meanings of medical categories underwent changes as they were translated from one language to another. Through different examples, he showed how such misunderstandings or mistranslations led towards significant medical innovations in the early 18th century.

Rod Edmond (University of Kent) delivered a talk on 'The National Body: Disease and literature in the modern colonial period', covering representations of leprosy in English literature in the 19th and early 20th centuries. He suggested how such writings encapsulated certain anxieties of the British Empire, and offered suggestive comments involving possible traffics between histories of medicine and literary and cultural studies. In his paper 'Disease, Commerce and Quarantine: Historical perspectives on trade disputes', Mark Harrison (University of Oxford) used a variety of examples to show how medical pretexts had been advanced to fight trade disputes since the 18th century. He proposed a global history of commercial rivalries on

Above:

Title page to
De Lactibus by
Caspar Aselli, 1627.



this theme, and showed how quarantines and disease prevention measures have over time served as covert means of economic protectionism.

Mridula Ramanna, co-organiser of the conference and Head of the Department of History, SIES College Mumbai, presented the first paper of the second day, detailing how efforts of the British Government in the Bombay Presidency to impose 'Western medicine' at the cost of the 'indigenous systems' were received by certain sections of the 'native population'. By focusing on the Indian legislators in the Bombay Legislative Council and the Indian doctors practising Western medicine, she argued that such responses were ambivalent. She suggested that such responses took various forms, which could be characterised as indifference, compliance and resistance. Then, in a fascinating paper, Michael Worboys (University of Manchester) emphasised the need to combine the histories of human and veterinary medicine. He explored the different constructions of rabies in dogs and hydrophobia in humans from the mid to late 19th century. His paper revealed interesting insights into the interactions between doctors, veterinarians, state officials and the 'public'.

Manjiri Kamat (University of Mumbai) spoke on the quotidian health practices of mill workers in Bombay in the late 19th and early 20th centuries. With a collage of different materials she showed how concerns of health and disease were reflected at the mills, at home, at leisure and after retirement. Andrew Hull (Swansea University) presented on 'The Emergency Medical Service in Wales, c.1937–48'. He emphasised the 'local Welsh Way' in organising wartime medical relief and

explored the relationship between the Emergency Medical Service and the emerging NHS. He examined how the experiences of individual patients could be accommodated within such histories of medical bureaucracy.

Sonu Shamdasani (Wellcome Trust Centre) then focused on the circulation of translated texts on yoga in Europe and the USA in the late 19th and early 20th centuries. The Ramakrishna Mission and Theosophical Societies often initiated such extensive circulations. Shamdasani tried to show how the 'Western' psychologists and psychotherapists redefined yoga through their emerging concepts and practices, and argued that ideas that were associated with yoga in contemporary Europe were often results of these interpretations. Guy Attewell (Wellcome Trust Centre) spoke on 'The Problematic of "Islamic" Medicine'. He tried to question the stereotypical labelling of 'unani tibb' medicine as Islamic medicine in opposition to 'Hindu' Ayurveda. Such understandings freely circulate in institutionalised and informal settings. From a plethora of sources in Arabic, Urdu, Persian and Tamil languages, he argued that unani tibb has mostly been cosmopolitan, heterogeneous and plural. It has been shaped by migration, networks of learning and trade, and interactions with 'local' health traditions.

Photographs and sketches of medical students conveyed the enduring impression that 'modern' American medicine was reliable, chivalrous, masculine, arrogant and confident

Indira Chowdhury (Tata Institute of Fundamental Research, Mumbai) reflected on the links between funding, institutional affiliation and research on oral cancer in India since the 1960s. She focused on a group of medical scientists, based in TIFR, who had identified extensive tobacco consumption as the principal cause of the ever-increasing cases of oral cancer in rural India. They engaged in extensive campaigns against tobacco consumption and in training dentists. Chowdhury showed how their activities were linked to their relations with the institution that employed them and their international patrons (in the WHO and the US National Institutes of Health). The second day closed with Malcolm Nicolson's (University of Glasgow) absorbing paper, 'Scientific Knowledge and Clinical Authority: Infant feeding, dental caries and rickets'. He discussed the interactions between medical researchers and clinical practitioners in the early 20th century. These interactions, he argued, were negotiated by contesting claims to authority. He elaborated these arguments by focusing on the activities of the 'Glasgow school' vis-à-vis infant feeding and child health.

Day three began with highly informative and inspirational talks by Anthony Woods and Elizabeth Shaw from the Wellcome Trust, who spoke on the Trust's activities and funding opportunities in the

Above:
Man with tubercular
leprosy. By George
Thin, 1891.

history of medicine (see www.wellcome.ac.uk/hom). This was followed by an overwhelming presentation by John Harley Warner (Yale University), who spoke on 'The Visual Culture of American Medicine: Modernist dissonances'. He argued that American medicine asserted itself, since the 1880s, through an extensive circulation of visual images. Such images were not invariably related to the laboratory, as frequently suggested. He argued that physicians and medical students projected a self-image that was distanced from the ideals of experimental science. Warner showed a wide range of amusing and meaningful photographs and sketches of medical students, mostly featuring a human cadaver on a dissection table surrounded by a group of medical students. He explained how these images were later extensively circulated with different intentions – these conveyed the enduring impression that 'modern' American medicine was reliable, chivalrous, masculine, arrogant and confident.

Anne Crowther (University of Glasgow) compared the professional choices of two generations of medical students at the Universities of Glasgow and Edinburgh. She disputed the widely held assumption that these medical schools consistently supplied doctors for imperial service, and argued that the medical students in these schools represented a heterogeneous group with diverse career interests and political allegiances. Virginia Berridge (London School of Hygiene and Tropical Medicine) addressed the challenges and opportunities in defining and writing contemporary medical history. She illustrated her insights with relevant examples from research on AIDs policies in the UK, smoking policy, alcohol policy, medicalisation of cannabis, policies on health and social care, etc.

The final panel of the conference began with Cristiana Bastos (University of Lisbon). Her insightful paper, 'Biomedicine and Nation-building in Brazil: From tropical ailments to AIDs', showed how state-initiated biomedical programmes in 20th-century Brazil contributed towards the reinforcement of Brazilian nationalism. She focused on the much-advertised

Brazilian AIDS programme developed at the end of the century, which was projected as part of the annals of modern nation-building in Brazil. She examined the processes through which the protagonists could be quickly represented as national heroes. The conference co-organiser, Sanjoy Bhattacharya (Wellcome Trust Centre), presented the last paper, 'The Challenges of Preparing Global Histories of the Worldwide Eradication of Smallpox'. He began by questioning certain assumptions of the existing histories on smallpox eradication, which simplistically attribute the success to measures conceived at the WHO headquarters at Geneva or the organisation's various regional offices. Bhattacharya focused on examples from South Asia to elaborate his arguments. He showed how centrally dictated strategies were reshaped, often beyond recognition, by 'local' bureaucrats, politicians and field officials. His rich and insightful presentation referred to an extensive range of printed official reports, unpublished official papers and oral testimony.

This conference emerged as an exception. It provided a platform for leading historians of medicine to discuss methodological challenges and their possible resolutions

The conference was marked by engaging and provocative questions from the audience, constituted of students, social scientists and practising medics. The conference generated immense interest among the academic community in Mumbai – reflected in the extensive coverage it received in the local newspapers. The participants were offered a guided 'History of Medicine Tour' around the city of Mumbai, where Rasheed Wadia's fascinating commentary was highly appreciated.

Rohan Deb Roy is a doctoral candidate at the Wellcome Trust Centre for the History of Medicine at UCL.

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A database of Italian charlatans, 1550–1800

DAVID GENTILCORE

Following the publication of my monograph *Medical Charlatans in Early Modern Italy* (Oxford University Press, 2006), the associated database is now available. It was lodged with AHDS History at the UK Data Archive, University of Essex, who have now ‘released’ it to the public (like some top-ten single). Book and database were carried out as part of a project called ‘Power and Disease’, the subject of my Wellcome Trust University Award at the University of Leicester.

The book itself has been favourably reviewed. George McClure, in the *Journal of the History of Medicine and Allied Sciences*, generously referred to it as “a book destined to become a classic in the field”. Shame he neglected to mention which field! Charlatan studies, perhaps? If so, look out for our journal, *Quack Quarterly*. More seriously, my aim in the book was to study the way Italian charlatans were represented, by contemporaries and by historians, and how they saw themselves and, most importantly, to reconstruct the place of charlatans in early modern Italy. I wanted to explore the goods and services charlatans provided, their dealings with the public and their marketing strategies.

I saw charlatans in Italy, where the phenomenon had its origins as a social reality, not just a projection of the elites. From the mid-1500s onwards, the Italian *Protomedicato* tribunals, Colleges of Physicians and Health Offices required charlatans to submit their wares for inspection and, upon approval, pay a licence fee in order to set up a stage from which to perform and sell them. The licensing of charlatans became an administrative routine. As far as the medical magistracies were concerned, charlatans had a definable identity; they constituted a specific trade or occupation. *Ciarlatano* was the label these remedy-pedlars and practitioners even used to identify themselves.

My aim was to study the way Italian charlatans were represented, by contemporaries and by historians, and how they saw themselves, and to reconstruct the place of charlatans in early modern Italy.

The licensing regime operating in early modern Italy allows us unparalleled opportunities when it comes to the investigation of suspect but generally tolerated categories such as charlatans. Given this, I wanted to provide a different look at charlatans, taking seriously the licences issued to them in the Italian states. The licences, and the information they provide, form the basis of the Italian Charlatans Database. The book, and the approach I adopt in it, would not have been possible



without the Database. Of course, the book makes use of other types of archival document, too, such as trial records and wills, to give the charlatans a human face, as well as a wide range of artistic and printed sources, and not forgetting the output of the charlatans themselves, in the form of handbills and pamphlets.

The licensing procedure – from initial application by the charlatan to the issuing of a licence – provides us with a wealth of information about them and the phenomenon of which they were part. Each complete licence tells us the charlatan’s name and place of origin, his stage name or alias, the nature of his practice/activity, licences and/or ‘privileges’ from other states (if any), the remedies he wished to sell, and (sometimes) the ingredients contained in each. A database of such information can thus tell us as much about individuals as it can about broader trends. Itemising some 1600 licences, issued to over a thousand different charlatans the length and breadth of Italy, over a period of over two-and-a-half centuries, the Italian Charlatans Database comes as close as it is possible to get in our attempt to understand charlatans and charlatanism ‘from the inside’.

I shan’t bore you with a description of the different fields and other technicalities here. Suffice it to say that, in addition to providing the identities of the charlatans, the exact nature of the various medicines they were licensed to make and sell is likewise significant. Two appended documents offer further information relevant to this latter field. ‘Appendix One: Translation of remedy ingredients’ assists in the case of information

Above:

A 17th-century charlatan, displaying a snake. By G M Mitelli.

supplied in the original Italian, by providing information on the ingredients and their purported uses and benefits, while 'Appendix Two: Index of remedies with ingredients' gives lists of ingredients for some of the main licensed remedies referred to in the Database.

The research for the Database was made possible by the incomparable richness of Italian state archives in Mantua, Padua, Pavia, Rome, Siena and Venice, as well as the archive of the University of Turin. But it would have remained in rough form, as a tool for my book, had it not been for the able and patient assistance of Sandy Pearson, Senior Computer Officer in the Faculty of Social Sciences, University of Leicester. (Any errors or inconsistencies remain my own, of course.) I hope the Database will be of interest to early modernists, as well as students of medical regulation, the relations between formal and informal medical systems, and medical itinerants and other healers operating on the 'margins'.

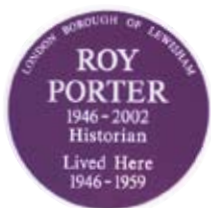
The Italian Charlatans Database, at AHDS History, can be ordered online via the UK Data Archive. You will have to be registered with the Economic and Social Data Service (ESDS) to place an order with this system:

www.esds.ac.uk/aandp/access/login.asp.

Registration is a two-stage process. First, you will need to obtain an Athens ID; ESDS can issue special Athens IDs for non-UK HE/FE staff and students (see www.esds.ac.uk/aandp/access/athensh.asp). Then you will then need to register with the ESDS. Once registered, you may order via your new account by clicking on the 'Download/Order' link on the relevant catalogue record www.data-archive.ac.uk/search/searchStart.asp. You can download the data for free or choose to pay for the data to be delivered on CD.

Professor David Gentilcore is based within the School of Historical Studies, University of Leicester.

Memorial to Roy Porter



Roy Porter (1946–2002), the eminent historian who joined the Wellcome Institute for the History of Medicine in 1979 and was its Director from 1999 to 2000, has been honoured with a memorial plaque on his childhood home in south London. The unveiling ceremony took place on Thursday 5 June 2008 at 13 Camplin Street, New Cross Gate, and was performed by Sir Steve Bullock, the Mayor of Lewisham, and Gladys Porter, Roy's mother.

The Borough of Lewisham's Maroon Plaque scheme celebrates local achievers and it was a Camplin Street resident, James Anderson, who led the campaign to commemorate Roy. James 'discovered' Roy while researching the history of the area after moving to New

Cross almost three years ago, and in May 2006 began a fundraising effort to have a plaque erected on the house in which Roy lived from 1946 to 1959. Early on in the campaign, he contacted Dr Carole Reeves, Outreach Historian in the Wellcome Trust Centre for the History of Medicine at UCL, who compiled an archive of Roy's works after his death.

Many of Roy's friends, colleagues, ex-students and publishers contributed to the memorial, and the Borough of Lewisham organised a reception in Monson School after the unveiling ceremony. Roy had attended Monson School between 1952 and 1958, and the register of his first day's attendance was available at the reception.

New publication



Superbugs and Superdrugs: A history of MRSA edited by L A Reynolds and E M Tansey.

Because of its unique adaptability and resistance to many antibacterial drugs and antiseptics, methicillin-resistant *Staphylococcus aureus* (MRSA) is a nosocomial menace of the present day. It has invaded medical and surgical wards in hospitals, infecting patients already ill or recovering, and endangering clean surgical operations, encouraged by overcrowding and limited air circulation. It has now spread from hospitals to families and communities. Infection control microbiologists and the Public Health Laboratory Service developed assays, phage typing and other tests to identify strains, with better understanding of their behaviour aided by the discovery of the *mecA* gene.

This transcript covers a Wellcome Witness Seminar, suggested by Professor Gordon Stewart and chaired by Dr Robert Bud, that addressed the biological reasons for this behaviour, the difference between resistant and non-resistant strains, the development, evolution and elucidation of drug resistance in hospital infection and the geographical distribution of resistance. It was attended by surgeons, microbiologists, infection control experts and representatives of the pharmaceutical industry and the public.

Published in: Wellcome Witnesses to Twentieth Century Medicine. Wellcome Trust Centre for the History of Medicine at UCL: London; 2008. ISBN 978 085484 114 1. See www.ucl.ac.uk/histmed/publications and click on 'Wellcome Witnesses'.

The Vaccinators: Smallpox, medical knowledge and the ‘opening’ of Japan



NIELS BRIMNES

Japan was the last major country to receive the cowpox vaccine against smallpox. This happened as late as 1849, nearly half a century after Jenner's discovery of the vaccine. The reason for this remarkable delay was, of course, that Tokugawa Japan had nearly sealed itself off from the rest of the world, a state of isolation that was only broken by the mid-19th century.

In *The Vaccinators* Ann Jannetta tells the fascinating story about how first the knowledge of vaccination against smallpox and later the vaccine itself travelled to Japan, and one discovers that the Japanese authorities were not so much rejecting all the outside world had to offer as they were trying to minutely control the flow of Western knowledge. The official Tokugawa elite – the *bakufu* – were certainly interested in Western medical knowledge and practice, and a community of medical men well versed in the Dutch language – known as the *ranpo* physicians – lived a precarious life balancing acceptance, tolerance and suspicion.

The narrative reveals how knowledge about Jennerian vaccination appeared in Japan through the Dutch bridgehead in Nagasaki Bay and through occasional contacts with Russians in the north-western part of the country. It explains how connections and common understandings were established between Dutch representatives and Japanese physicians, and how in the 1820s the energetic Franz von Siebold succeeded in disseminating Western medicine in Japan, only to fall into disgrace in 1829 because he tried to smuggle prohibited items out of the country. The fall of Siebold caused severe damage to the *ranpo* community, but he also left a legacy in the form of a network of physicians who covertly advocated – among other things – the introduction of the cowpox vaccine into Japan.

According to Jannetta, vaccination was the medical technique that paved the way for Western medicine in Japan

After several failed attempts the vaccine finally reached Japan in 1849. Significantly, the successful vaccine arrived not as fluid lymph – which was the ‘Western’ way of transportation – but in its ‘Asian’ form of dried scabs. From here, its dissemination seems to have been a success story. As Jannetta writes: “The speed and efficiency with which the diffusion of vaccination took place once it reached Nagasaki are truly remarkable.

Many years of anticipation must have helped”. Finally, Jannetta argues that smallpox vaccination and the vaccinators themselves were crucial in the creation of a public health regime that would eventually “rank second to none” in disease control. According to Jannetta, vaccination was the medical technique that paved the way for Western medicine in Japan.

Focusing on this extraordinary chapter in the story of how vaccination spread throughout the world in the beginning of the 19th century, *The Vaccinators* stands as a highly valuable contribution to medical history. Jannetta is able not only to profit from rich Japanese sources but also to engage with a rich Japanese historiography on medical issues. Yet the book is probably intended more for an audience well versed in Japanese history than for one of medical historians. Otherwise it is difficult to explain why Jannetta provides a detailed description of Jenner's discovery, while she only provides limited information on the nature of Japanese society in the late Tokugawa period. Apart from contributing to Japanese history and the history of medicine, however, *The Vaccinators* also addresses a third important issue: the importance of networks and connections in the transmission of knowledge within and across societies.

The Japanese authorities were not so much rejecting all the outside world had to offer as they were trying to minutely control the flow of Western knowledge

One of the characteristics of the introduction of vaccination into Japan was that the Tokugawa authorities remained hostile towards it. In Japan vaccination was not introduced as part of state medicine, it was the result of networking ‘from below’. After 1849 the Japanese authorities became curiously indifferent to the spread of vaccination; this might, Jannetta suggests, be taken as a sign that the *bakufu* had finally, but tacitly, approved of the practice. It is obvious that official scepticism towards vaccination is crucial to Jannetta's account. In contrast, she does not reveal much about the popular reaction to vaccination. She refers to indications that there was opposition, but does not provide detailed information on this. Although ‘popular resistance’ is perhaps a pet issue among social historians of medicine, one really would like to know more about it, especially because variolation was never widely accepted in Japan. Why is the rich source base for this book silent on this issue?

Essentially, *The Vaccinators* is a tribute to the arrival of medicine and modernity in Japan. Vaccination was a ‘transformative technology’ that fits well into

a heroic narrative of progress. Towards the end of the book Jannetta writes: “A movement that had begun in severely limited circumstances on Japan’s far periphery had moved to center stage. It had, in fact, moved beyond center stage. Japan’s public health initiatives quickly moved into the world beyond Japan. In addition to building a strong public health regime at home, Japan joined the international health initiatives that were developing at the time... The timing of Japan’s entry onto the world stage was fortuitous: Japanese researchers were soon contributing

to the bacteriological revolution – based on the discovery of the germ theory of disease – that was just around the corner”. Such a linear understanding of history is rare to encounter these days.

Jannetta A. *The Vaccinators: Smallpox, medical knowledge and the ‘opening’ of Japan*. Stanford, CA: Stanford University Press; 2007.

Dr Niels Brimnes is an Associate Professor at Aarhus University, Denmark.

Birthing a Slave: Motherhood and medicine in the antebellum South



ANDREW WEAR

The medical care of slaves, like some aspects of psychiatry, brings into sharp focus issues of patient freedom and of forcible treatment. The historian who writes on slavery in the Americas in the period from the 17th century onwards has to be aware of a number of factors as well as ethical issues.

The economic role of slaves often shaped the decisions that were made about their medical treatment and care. The medical care available to slave owners looks like that present in Western Europe but could significantly differ, as Todd Savitt showed in his influential *Medicine and Slavery: The diseases and health care of blacks in antebellum Virginia* (1978). Moreover, slave societies created their own culture, some of it carried over from Africa, which provided them with their own resources to understand and treat illness. This ‘dual system’ of healthcare was first proposed by Savitt. Sharla Fett in *Working Cures: Healing, health and power in Southern slave plantations* (2002) has recently detailed how slaves’ medical culture provided them with a body of magical and herbal beliefs together with witch doctors and herbal women, which gave them an alternative to the owners’ white medicine.

Marie Schwartz, in a book full of empirical source material, acknowledges her debt to Savitt and Fett. She provides a very full account of all the stages of reproduction, from issues of fertility and pregnancy, through birth and then to postnatal complications. The last part of the book is devoted to gynaecological surgery and surgery for cancer. The overarching argument is that slave women made use of the ‘dual system’ and would often prefer to avoid the medical treatments that were provided by white practitioners and slave owners. Schwartz looks also at the motivation of slave owners. She points out that the ending of the

slave trade in the early 19th century led to a premium being put on a slave population that was self-sustaining and ideally increasing. This led slave owners to push female slaves into early marriage in order to maximise the number of offspring. As the need for home-bred slaves became apparent, pregnant and nursing slaves had easier working conditions. In addition, the slave owner’s motivation to bring in a white practitioner to deliver a slave’s baby, especially if there were complications, increased. Spending money on a white doctor might not only ensure another slave, but, as Schwartz points out, it could also help to build up a picture of the philanthropic and paternalistic slave owner.

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White practitioners play a major role in the book. They might assess a slave woman’s fertility, manage her giving birth and treat any complications. White practitioners did not make much money from a birth but it gave access to a plantation owner’s family and slaves more generally, from whom in the future a larger income could be gained. They took their orders from the owners and when it came to major operations for conditions such as cancer, Schwartz makes it clear that they often operated against a slave’s wishes. Schwartz places white practitioners into what is now the accepted context for 19th-century medicine in the USA: an early eclectic mix of doctrinaire groups and then an increasingly ‘professionalised’ cadre of practitioners centred on medical societies.

There is a great deal of evidence drawn from the testimony of freed slaves. From it Schwartz creates a picture of coercion, resistance and in some cases a

degree of cultural autonomy. Though she is particularly good in detailing what white practitioners did to slaves, with graphic descriptions of operations and treatment, it was clearly more difficult to uncover in detail how slaves provided help for each other.

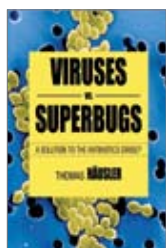
In some ways the book is almost too empirical. Its conclusions are unexceptional and mirror those of Savitt and Fett. Yet the rich material in the book, the specific conclusions drawn from it and the comprehensive

coverage of the different medical aspects of birth for slave women make this an important addition to the literature on slavery and medicine.

Schwartz MJ. *Birthing a Slave: Motherhood and medicine in the antebellum South*. Cambridge, MA: Harvard University Press; 2006.

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Viruses vs Superbugs: A solution to the antibiotics crisis?



G NARASIMHA RAGHAVAN

At a time when dysentery often preceded death came the foresight and forbearance of a scientist at the Pasteur Institute in Paris, Dr Felix d'Herelle. After examining the stools of patients with dysentery, d'Herelle was able to decipher and take apart a few viruses that actually attacked the culprit *Staphylococcus* bacteria and restored normality in patients.

These viruses were named 'phages' (from the Greek *phagein*, 'to eat'), in admiration of their ability. Soon, d'Herelle was able to isolate many such viruses that attacked harmful bacteria (bacteriophages), and almost single-handedly heralded the era of 'phage therapy'. This was all during the 1920s.

Thomas Häusler's book deals with many issues all at once: nature's way of countering harmful bacteria, the temporal dimension of diseases and medicines, the importance of patience in dealing with illness and patients, and one great French physician. *Virus vs Superbug* is a book that can be examined at different levels of comprehension. It is about the now-forgotten phage therapy, and much more about the issues that girdle the therapy's recent revival.

Readers are treated to the fascinating story of how the once-famous phage therapy was resurrected in the dismembered nation of Georgia during the 1990s, almost half a century after its untimely demise. The book, written originally in German, intends to chronicle the "unusual history of phage therapy", and the "pioneer's struggle" to establish it as a standard method of medical treatment. D'Herelle considered the phages to be intelligent beings (there was a controversy whether the phages were viruses or abiotic enzymes); he threw his heart and soul into researching the benefits of phages for the good of humanity, and was passionate to see that the therapy reached every part of

the world. However, the therapy was criticised on the basis of there being no standardised experiments and trials. To d'Herelle, working in immaculately clean laboratories with rodents was anathema, and he wanted to be where the action was: in the hospitals, near the suffering patients. Lab trials were "for the mentally lazy cowards who were afraid of raw reality" exclaimed the rebel in the doctor. By 1930s and 1940s, phage therapy could be traced to many nations of Europe, the USA and even parts of Africa and India.

As is common in cases of scientific advance, the mercantile class saw mammon in what was hitherto a physician-centric method of producing phages. There were bold claims from the pharmaceutical industry about the efficacy of phages and their virtual lack of side-effects. Phages soon became big business. Predictably, the pharma industry's trick did not last long, and it had to pay the price for its over-selling. This rang the first bell of phage therapy's untimely death. The second and closing bell rang when in the year 1945 a 'miracle' drug called penicillin was discovered, bringing in its wake ardent supporters of this antibiotic in the medical fraternity. Thus was born the era of antibiotics.

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In the meantime, one of d'Herelle's contemporaries in Georgia (in the undivided Soviet), Dr Georgiy Eliava of the Tbilisi Institute, evinced keen interest in phages and succeeded in isolating many. He had dedicated his life to improving the welfare of his fellow citizens, only to be taken away by the secret police all of a sudden, for reasons unknown. However, his colleagues and students saw the growth of phage therapy and after

Georgia's independence from the USSR, the Tbilisi Institute was rechristened the Eliava Institute in his honour. This Institute remains one of the last places where phage therapy gets its due recognition and respect, run by passionate, yet impoverished, staff and doctors.

The very fact that the Eliava Institute has remained throughout an admirable centre for phage therapy has made it a target for new-generation biotechnology companies from the Western nations. Deepening resentment among patients and select doctors about the inefficiency of antibiotics has led the biotech and pharma industries to look for blockbusters in phages. Many such companies have contacted the Institute at Georgia, and have their eyes firmly fixed on its phage bank (with 3000-plus phages, a veritable treasure trove).

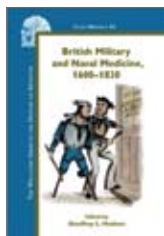
This book, besides chronicling the growth, premature demise and resurrection of phage therapy, raises very important issues that need to be addressed as a part of the larger concern of contemporary methods of treating diseases. Phages have proved to be a very valuable weapon in the arsenal of doctors, and their existence and endorsement (where this has happened) stand testimony to their worth. However, experiments

with phages have remained outside the purview of standard testing and trial procedures. In such a case, should phage therapy be banned even if it has a high propensity to cure patients? An attendant issue is how to protect the intellectual property rights of the Eliava Institute from the biotech and pharma companies' sudden interest in phages. Phages are not amenable to patents, being naturally occurring. If so, how can the interests of the knowledge producers be safeguarded? And finally, is change needed in the policies of medical departments to get them to avoid the lure of antibiotics and switch to phage therapy, without "provable clinical trials and regulations"? Thomas Häusler has written a book that fascinates and at the same time makes a reader rue the politics behind the benign face of medical institutions. Yet one wonders whether the book is argumentative enough to provide a "solution to the antibiotics crisis".

Häusler T. *Viruses vs Superbugs: A solution to the antibiotics crisis?* London: Macmillan; 2006.

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British Military and Naval Medicine, 1600–1830



KEITH WILLIAMS

Pre-19th-century military and naval medicine is a topic that has attracted little serious academic writing in the past few decades compared with many other aspects of the history of medicine. Indeed, as Philip Mills, one of this book's contributors, points out, the historiography continues to lack a comprehensive study of British military medical provision in the 18th century.

This reviewer would add here that much the same might be said in regard to the 19th century, with the much-quoted Cantlie's *History of the Army Medical Department* suffering errors of fact and poor referencing, and being in some measure wanting in terms of academic rigour. That there are such gaps in the historiography is somewhat surprising given that, as Paul Kopperman, another contributor, points out, medical history in the military context provides data that are fuller than are found in the civilian sphere.

Consequently, this collection of ten essays (including introduction), edited by Geoffrey Hudson, has to be seen as a welcome addition to the literature, being of interest

as much to the general public as to the academic reader. As well as providing a good introduction to a broad range of topics in military and naval medicine in the period concerned, it usefully indicates areas for further research, with a key strength lying in the abundant endnote referencing of secondary and archival sources. Although Hudson delineates the contents in terms of four thematic areas, the various essays are perhaps best looked at as being either fairly comprehensive accounts of the practice of military or naval medicine in the 18th century, or dealing with more specialist aspects of the subject.

While progress in preventative medicine had brought about real improvements in healthcare in the navy, this was achieved at the expense of depriving men of their individual identities

Of the more generalist essays, two deal with military medicine and two with naval medicine, with each emphasising the importance given to the pursuit of preventative measures rather than the treatment of battlefield wounds. This is unsurprising given that more deaths resulted from disease than from battle. Kopperman, using an extensive database, provides a

fascinating review of British army medical practice in North America and the West Indies between 1755 and 1783, concluding that the medical services generally performed well. Mark Harrison, pursuing a similar theme, but in a different continent (British India) and over a longer period (1750–1830), focuses in particular on the treatment of fevers, and shows how the medical services played an important part in the development of tropical medicine. In a broad survey of naval medical practice over the period 1700–1800, Patricia Crimmin shows that naval health and healthcare had improved by the end of the century, mainly as a result of improvements in hygiene and diet rather than advances in medicine itself. Overlapping with Crimmin's essay, Margarette Lincoln focuses on the inter-relationship between naval medicine and broader society in the period 1750–1815, and while agreeing that progress in preventative medicine had brought about real improvements in healthcare in the navy, argues that this was achieved at the expense of depriving men of their individual identities.

Such gaps in the historiography are somewhat surprising given that medical history in the military context provides data that are fuller than are found in the civilian sphere

The other essays constitute a veritable farrago of topics, covering aspects not often found in more generalist works. Christine Stevenson's examination of early British hospital architecture focuses on how medical theory affected architecture. But, as she points out, the lessons learned about military hospital hygiene in the mid-18th century had been forgotten by the time of the Crimean War, when thousands died as a result of the wretched conditions at the Scutari hospitals. In his postmodernist-oriented account of life within the Royal Greenwich Hospital for ex-sailors in the early 18th century, Hudson argues that its council records show a very different picture from the traditional one of it being a safe haven for the indigent. Eric Gruber von Arni's fascinating and detailed account of military nursing during the English Civil Wars and the Interregnum fills a huge gap in the historiography of nursing, and does much to correct the notion that Nightingale invented military nursing. As Hudson points out, the history of nursing in the 18th and early 19th centuries offers considerable research opportunities.

Mills's account of hernias and their treatment in the Georgian British Army seems on the face of it a bit of an oddity in a book of this kind, but provides an interesting case study of experimentation and innovation within British military medicine. This contrasted with contemporary medical practice, which adopted a palliative approach to the condition. It is to be regretted, however, that the incidence of hernia occurrence cannot be quantified, for in the absence of such evidence the author's contention that "hernias were prevalent among servicemen" seems rather tenuous. Finally,

James Alsop reviews the literature of British maritime and imperial medicine in the period 1600–1800, but focuses on the 18th century given the dearth of medical publications prior to 1680, and notes that the knowledge acquired by military and naval medical practitioners found its way into the general medical textbooks and specific advice literature on imperial medicine. Alsop opines that this is a fruitful area for further investigation, and it is a pity that he did not seek to facilitate this by organising his useful list of references into a bibliography.

While the individual essays are interesting and informative, and will undoubtedly inspire many readers to seek to explore the cornucopia of references presented, the limitations of the book as a whole must be recognised. First and foremost it is a work that seems to lack an overall coherence, and here, for example, one has to question the inclusion of an essay on English Civil War nursing in a book that in essence focuses on the 18th century. Moreover, there is little interaction between the different essays and Hudson's attempt, inspired on his own admission by some of Roger Cooter's socio-historic perspectives and conceptualisations, to argue a unifying theme in the introduction is hardly convincing. Indeed, it is difficult to reconcile Hudson's contention that this volume highlights the value of challenging the notion that military medicine was in all respects a 'good thing' for medicine and society with the comments made by the various contributors. Kopperman, for example, is emphatic that the medical services did materially improve health and reduce mortality in the army, while Harrison has no doubt that the army and navy's medical services were important sites of innovation in 18th- and early-19th-century medicine. Such examples aside, there is the issue of what constitutes 'good' in this context, and whether such implied value judgements have a place in a narrative work such as this. One gets the impression that Hudson intended the work to have been a medium for the critical interpretation of society and culture, but if so it is apparent that the empirical and narrative approach of most of the various contributors do not provide much support for such an ideal.

In terms of omissions, it is disappointing in a volume on naval and military medicine that there is not an essay devoted to an examination of the differences between the two services in terms of organisation, education, medical treatments and the interaction between the two services, as well as their relationship with civil medicine organisations, as provided in regard to the mid-19th century in Shepherd's *The Crimean Doctors*. Finally, one has to question why the series editors countenanced the absence of a bibliography in this instance, in contrast to other books in the series, and one cannot but hope that this is not setting a precedent for their future publications.

Hudson GL (ed.). *British Military and Naval Medicine, 1600–1830*. Wellcome Series in the History of Medicine. Amsterdam/New York: Rodopi; 2007.

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Centre for the History of Science, Technology and Medicine, Manchester
Contact: Ian Miller (bshs2009@googlegmail.com)

FEBRUARY 2009

- 11 **Nursing the Sick Poor in Seventeenth-century London**
Talk by Henry Meier
Institute of Historical Research, University of London
Contact: IHR.Webmaster@sas.ac.uk
- 21 **Medicine and Charity in History**
Seminar at Oxford Brookes University
Contact: Chris Moores (CIM305@bham.ac.uk)

MARCH 2009

- 25 **Health, Well-being and Commerce 1500–2000**
CHORD (Centre for the History of Retailing and Distribution) workshop,
University of Wolverhampton
Contact: Laura Ugolini (l.ugolini@wlv.ac.uk)

APRIL 2009

- 3–5 **Social History Society Annual Conference 2009**
University of Warwick, Coventry
Contact: Linda Persson (l.persson@lancaster.ac.uk)
- 4 **Venal Bodies: Prostitutes and prostitution in eighteenth-century culture**
Conference at the Institute of Germanic and Romance Studies,
University of London
Contact: Markman Ellis (m.ellis@qmul.ac.uk)
- 15–17 **Securing the Ultimate Victory**
Conference at the Army Medical Services Museum, Aldershot, Surrey
Contact: armymedicalmuseum@btinternet.com
- 16–18 **Society for the Social History of Medicine Postgraduate Conference**
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Contact: Catherine Cox (pgconf@sshm.org)
- 23–24 **Fracturing Colonial Medicine**
Workshop at the Centre for the Social History of Health
and Healthcare, University of Strathclyde, Glasgow
Contact: Anna Crozier (anna.crozier@strath.ac.uk)
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