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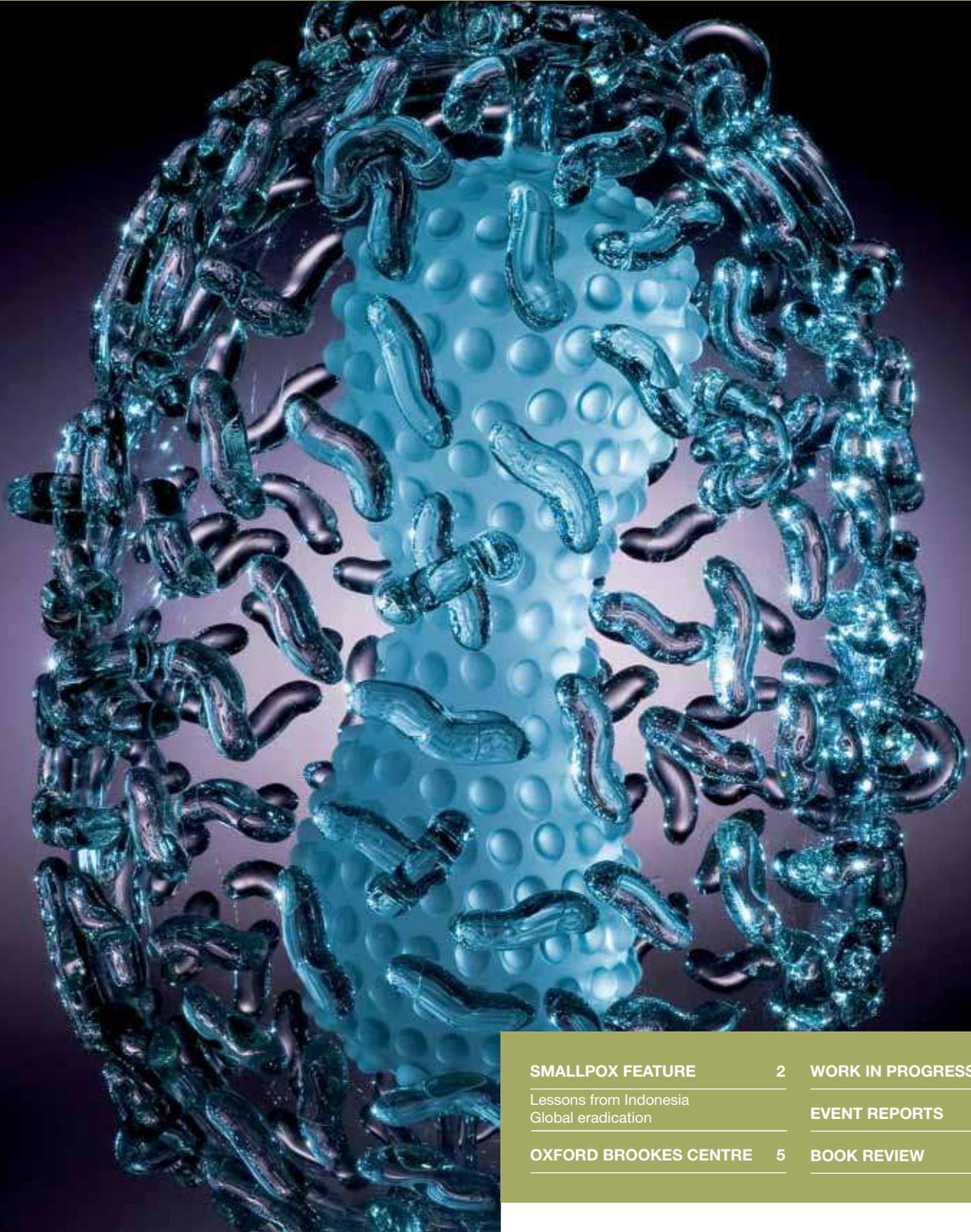
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Smallpox eradication

Lessons from the Indonesian archipelago,
1947–74

VIVEK NEELAKANTAN

South Asia (India, Afghanistan, Pakistan and Nepal), the Indonesian archipelago, Brazil and the Horn of Africa were the only smallpox-endemic regions of the world in 1967 when the World Health Organization executed the Intensified Smallpox Eradication Programme.

While smallpox eradication in post-colonial South Asia has been well documented in contemporary historiography, a parallel body of work assessing the smallpox eradication campaign as it unfolded in post-independence Indonesia is lacking. A part of this problem relates to the compartmentalisation of Indonesian history into distinct periods such as the Dutch period, the Japanese occupation, the Indonesian Revolution, the Sukarno era, the Suharto era and the Reformasi era. Smallpox was largely overcome in the Indies archipelago at the start of World War II (1939) but made a comeback during the Revolutionary period (1947) – a period of political transition that fits untidily into the colonial–post-colonial division, which is problematic. In this article, I argue that the Indonesian smallpox eradication campaign (1947–74) serves as a crucible to examine the shift in strategy – from mass vaccination to surveillance and containment – within the policy circles of the WHO that ultimately contributed to the worldwide eradication of smallpox in 1980.

Since the introduction of vaccination on the island of Java in 1804, the colonial state in the Dutch East Indies (today known as Indonesia)

successfully tackled smallpox through a series of mass vaccination campaigns consisting of the ‘dual system’: primary vaccination (which immunised as many infants as possible) and revaccination of the entire population once every seven years. Consequently, smallpox transmission was reduced to near-zero levels by 1939–40. However, during World War II, owing to the slackening of primary vaccination and revaccination, the Indonesian population’s immunity to smallpox weakened.

Waves of smallpox outbreaks began to affect Sumatra, beginning in October 1947. The Dutch Medical Resident in the Riau archipelago, Van Waardenburg, had reported that the first case of smallpox in postwar Indonesia was an unvaccinated Chinese child in the Riau island of Kundur, whose father would sail frequently across the Straits of Malacca to the island of Batu Pahat in Malacca, which was smallpox-endemic. In October and November 1947, smallpox outbreaks were reported amid the Orang Mantang community (sea nomads native to the Straits of Malacca), who would evade vaccination owing to their antagonism to Western medicine. Of the 89 reported smallpox cases from Kundur in 1947, 81 were from the Orang Mantang community. In 1948, the inter-island coastal traffic from Sumatra to Java – which had been smallpox-free – acted as a conduit for smallpox. In December 1948, the disease was imported into Batavia (now known as Jakarta). By June 1949, Batavia recorded an epidemic with 4841 reported cases. During this epidemic, the separation of smallpox patients from their families and subsequent

Above:

The geography of the Indonesian archipelago affected the spread of smallpox and shaped eradication efforts.

Jean Assell/
iStockphoto

Cover:

Glass sculpture of the smallpox virus.

Luke Jerram/
Wellcome Images

transportation to the quarantine station on the island of Kramat Djati proved too radical, leading to unrest.

In the 1950s, Indonesia did not have a national smallpox eradication programme. Mass vaccination campaigns involving the earlier colonial dual system of separating infant vaccination from adult revaccination continued. The Pasteur Institute at Bandung manufactured Otten's vaccine (dried vaccine sourced from buffalo lymph), which was used in mass vaccinations. The Institute and the Department of Health at the national level rarely achieved a consensus on questions such as the potency of the vaccine or standardisation of the vaccination technique.

In 1958, the Soviet Union proposed the global eradication of smallpox at the Eleventh World Health Assembly. The Global Strategy for the Eradication of Smallpox aimed to eradicate the disease from endemic areas of the world through a programme of mass vaccination involving at least 80 per cent of the population of the affected countries. In 1963, Indonesia launched a Five Year Programme to Combat Smallpox, under the overall control of the malaria eradication programme (implemented first as a pilot project in West Java, then in the provinces of South Sumatra, West Sumatra and East Java). Implementing the Five Year Programme proved to be a thorny issue, as the central government was in charge of epidemic control whereas the provincial governments were in charge of administering routine vaccinations. Coordinating epidemic control and the administration of routine vaccinations proved to be almost impossible in the 1950s. The WHO's Regional Office for Southeast Asia (SEARO) criticised Indonesia's policy of diverting malaria eradication personnel and infrastructure to smallpox eradication as being "premature", as the nation had not yet eradicated malaria.

The Nineteenth World Health Assembly formulated the basic strategy of the Intensified Smallpox Eradication Programme (INSEP) in 1966. The two components were mass vaccination, covering at least 80 per cent of the population and surveillance, detecting smallpox cases and containment of outbreaks as they occurred. Indonesia initially introduced the INSEP on the islands of Java and Bali in 1968, expanding to Sumatra, Sulawesi and Kalimantan in 1969.

In West Java, backlog fighting (mass vaccination of infants and migrants) had covered 25 per cent of the population in 1969 but had failed to interrupt smallpox transmission. Nurses and vaccinators would not report outbreaks to the regency health officials as they were not given specific instructions on how to do so. It was customary in West Java to carry sick children to visit relatives. Isolation of the patient at home and vaccinating the immediate contacts in order to contain an outbreak proved unworkable.

North Sumatra was smallpox-endemic when the INSEP was launched in the province in 1969. Plantations employed up to 40 per cent of the workforce, but there was little coordination between plantation hospitals

and the regency health services in the implementation of the INSEP. Smallpox surveillance was not effective in detecting cases as surveillance activities were carried on during the day, when the majority of villagers were at work on the plantation. As a result there was a huge backlog of unvaccinated individuals. In the plantation hospital at Simelungun, it was observed that children with symptoms of chickenpox were misdiagnosed with smallpox and isolated in a smallpox ward – where they were infected with the smallpox virus. They began to initiate new smallpox outbreaks soon after their discharge. Case notifications from village heads to the regency health services were incomplete as the disease was not suspected.

When Indonesia began the INSEP in 1968, 17 380 cases of smallpox were officially recorded. In 1970, there were 10 081 – 33 per cent of the world's total cases of smallpox. In 1972, Indonesia recorded its last case. The WHO-sponsored *Smallpox and its Eradication* report states that smallpox transmission in Indonesia was interrupted in 1972, owing to the shift in strategy from mass vaccination to surveillance and containment. However, the reported success of the surveillance-based component of the INSEP in Indonesia was more apparent than real. Surveillance in the initial stages of the campaign was weak, as chickenpox cases were misreported as smallpox. But an unnamed vaccinator in Bandung successfully used colour photographs of smallpox cases published in a WHO teaching folder to obtain numerous case notifications, with remarkable success. The WHO staff adapted this field experience by printing 'smallpox recognition cards', which were used successfully for case detection in smallpox-endemic South Asia.



Right:
Smallpox surveillance
in Indonesia, 1974.
With permission of
the World Health
Organization

With smaller numbers of outbreaks since 1971, the vaccinators discontinued routine vaccination to look for cases. The health authorities considered every case to be a national emergency. The Department of Health announced a reward of 5000 rupiahs to anyone who reported a suspected case that was confirmed in the laboratory for smallpox. Despite this vigilance, no cases have been discovered in Indonesia since 1972. Indonesia was declared free of the pox, thus providing hope for the SEARO that smallpox eradication was attainable.

After two decades in which Indonesia did not have a coordinated plan to eradicate smallpox, the country's

chapter of the INSEP proved to be the crucible in which ideas related to mass vaccination and surveillance formulated at the WHO headquarters in Geneva were evaluated and adapted based on their applicability to local geographic and cultural factors. The success of the INSEP in Indonesia was based on a strategic shift from mass vaccination involving the total population to using smallpox recognition cards for case detection.

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Achieving the impossible

SANJOY BHATTACHARYA

Thirty years ago, people witnessed the fulfilment of a goal that many had considered impossible: the WHO's Health Assembly announced the global eradication of smallpox.



It was a momentous occasion; in the view of many, with good reason, this was the greatest achievement of global public health in the 20th century. However, time has taken some shine off the accomplishment. I have encountered, all too often, in idle conversations and more formal speeches and writings, the argument that smallpox eradication was easily achieved. According to this interpretation of events, the problems faced by the 'smallpox warriors' were relatively straightforward as the disease did not have animal hosts; some commentators also argue, quite simplistically, that work was based on a strategy of searching for cases, containing infectious individuals and vaccinating their immediate contacts.

The most effective campaigns were generally those that were based on a proactive exchange of ideas between field personnel of different ranks and backgrounds; regular meetings were regarded as crucial

The situation was always more complicated throughout the course of a long-drawn-out global programme that was announced in the late 1950s, only really took off a decade later after a series of successful campaigns across West Africa, and took a further ten years to complete in a situation where the South Asian subcontinent and the Horn of Africa threw up a series of unexpected

challenges. The mere presence of technological developments – such as the introduction of heat-stable freeze-dried vaccines, and the so-called bifurcated needle that contributed to vaccinal economy and safety – did not guarantee smallpox eradication. Human agency was an important determinant, since WHO programme managers and national governments had to make significant efforts to persuade field officials to embrace new ideas and technologies. Notably, despite these efforts, some people remained indifferent to the calls for the introduction of new operational methods and vaccinal products, choosing to stick to older procedures that they were more comfortable with and often regarded as being more reliable. Other challenges afflicted the campaign as well. Some sections of target populations opposed vaccination, which entailed delays and negotiations. There were, after all, limits to how much pressure the 'smallpox warriors' could impose on local politicians, junior governmental officials and civilian populations; diplomatic niceties could not be dispensed with altogether and international workers remained wary about stoking violent civilian resistance and resentment.

Other factors hampered the global effort as well. Support from within the WHO frameworks in Geneva and the Regional Offices remained inconstant, and often caused serious financial difficulties for work being carried out in the field; these challenges were only overcome in the 1970s with the assistance provided by a range of donors, such as the Swedish and Danish international development agencies, the Indian and Bangladeshi governments, and, not least, the Tata industrial consortium in India. To make matters worse – and this remained visible right to the end – some officials associated with national and local governments continued to oppose the eradication goal, often simply because they considered it misguided. In addition, competing health and financial priorities, alternative epidemiological understandings of smallpox causation

Above:
The bifurcated needle was an important innovation used in eradicating smallpox.
Sanjoy Bhattacharya



and control, and a variety of professional and personal jealousies proved damaging; all these trends stoked doubts among bureaucratic and civilian constituencies, which translated into episodes where assistance was refused to teams of ‘smallpox warriors’.

We need to remember many positive aspects to the global smallpox eradication programme as well. A large number of participants remember – and cherish – the internationalism that characterised it. For many, the campaign allowed a context in which Cold War rivalries gradually dissipated, as several officials from the USA, USSR and countries allied to each learned to collaborate with and trust each other. It is also worth remembering that many national workers regarded their participation in the project as a career highlight, allowing an intense and productive association with WHO frameworks; this attitude is well represented by the care and pride with which officials have preserved certificates thanking them for their involvement. There can be little doubt that there was goodwill among many ‘smallpox warriors’, despite differences in nationality, education, race, gender and age. For many young officials, participation in such a global programme led to new career paths, with international and government agencies, non-government organisations, universities and charities. A shared goal of saving lives drew many people together in the 1970s and ultimately gave rise to meaningful projects such as the Expanded Programme on Immunization, whose components are widely credited for reducing levels of infant mortality around the world.

However, all these positives should not be allowed to cloak important intricacies in operational strategy, especially as these are sometimes downplayed or ignored in celebratory treatises. The programme, which was composed of several national chapters linked by a series of international accords, was always marked by variations in official and civilian attitudes. Participants

had differing visions about the efficacy of plans, and workers had dissimilar levels of commitment and ability. The contours of these variations changed over time and place, as there were shifts in the composition of teams and their interactions with national and local constituencies. Also, the transfer of ideas about the best means of eradicating smallpox did not flow in one direction. Indeed, the most effective campaigns were generally those that were based on a proactive exchange of ideas between field personnel of different ranks and backgrounds; for this reason, regular meetings between international workers and national counterparts were regarded as crucial in the 1970s. Many international workers were also able to play another important role – conduits for locally garnered information, which would otherwise have been ignored by those at the apex of

There were limits to how much pressure the ‘smallpox warriors’ could impose; diplomatic niceties could not be dispensed with and workers remained wary of stoking violent civilian resistance

national governing structures. Indeed, WHO representatives were often able to put forward ideas presented by junior medical and paramedical staff who were in touch with the social, political and economic realities of specific regions; this frequently ensured that this input was not summarily rejected. The multidirectional flow of ideas – and the resulting impact on field policies – is not always recognised or analysed by chroniclers of smallpox eradication. Yet these trends need to be studied sensitively and in great depth, as we celebrate the 30th anniversary of smallpox eradication, so that we can better present the many complexities characterising national and local vaccination campaigns.

A spirit of collaboration, in the widest sense, allowed the achievement of the impossible. So, as we celebrate a magnificent achievement in public health cooperation, we should consciously seek to refrain from reducing success to the contributions made by a few individuals associated with specific institutions. These people and organisations could not have stamped out the disease without extensive efforts from different health agencies and workers. Seen from this perspective, a complex association of institutions and people led to the stamping out of variola in its natural form; it is of paramount importance that we do not forget the contributions of the many people who contributed to the triumph.

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Above:
The official declaration that “smallpox has been eradicated from the world”.
Sanjoy Bhattacharya

Centre for Health, Medicine and Society: Past and Present, Oxford Brookes University

MARIUS TURDA

The Centre for Health, Medicine and Society: Past and Present is part of the School of Arts and Humanities at Oxford Brookes University. It has 14 members of academic staff, two research fellows, one visiting professor, two research associates, two research assistants and support staff. The Centre promotes the study of the social history of health and medicine and is regarded as one of the leading research centres of its kind in the UK.

The Centre constitutes a vibrant academic community, recognised both nationally and internationally. Moreover, the Centre regularly attracts overseas scholars, some of whom have been funded by the University's visiting fellowship scheme. This drive for intellectual interaction is reflected in the Centre's commitment to cutting-edge research in the history of medicine and our ever-growing international network.

Moreover, we have an excellent record in securing external grant funding, and are currently undertaking an ambitious five-year research programme on 'Health Care in Public and Private' funded by a Wellcome Trust Strategic Award that started in October 2007. This also funds administrative support, student bursaries, outreach activities, conferences and a regular programme of seminars open to the wider community in Oxford. The Centre has also been successful in winning grants for individual research projects, especially from the Arts and Humanities Research Council (AHRC) and the European Commission.

The Centre's research interests span from the early modern period to the present day and have global coverage. Some of the Centre's current historical projects investigate: poverty, health and the welfare of children; anatomy and hospitals; material and visual culture of medicine and science, in particular, the role of collections, museums and models in the circulation of knowledge; crime and the law; colonial/post-colonial medicine and indigenous health practices; eugenics, anthropology, racism and bio-politics; medical refugees; and Nazi human experimentation.

Our research and outreach agendas also reflect the Wellcome Trust's wider policies and strategies. We thus strive to engage and build dialogues with local communities in Oxford, to diversify our courses in the history of medicine to attract more students, and to reshape collaborative work towards helping our researchers' own dissemination projects. To this end, we look for innovative ways to meet the ever-changing needs of an ever-changing society.

Connecting with schools in the Oxford region has also given us an insight into the needs of our local community. In 2009, we organised a debating competition to introduce Year 11–13 pupils to the history of medicine, and we are also an active presence in the Science in Schools Programme initiated by the British Council. Several members of staff have worked with the media, making recent contributions to BBC Radio 4's *Making History*, as well as to television documentaries made for BBC Four, ITV and the History Channel.

The Centre is also fortunate to hold a significant collection of historical documents and reference sources, which we also make accessible to other scholars. We have, for example, a major collection of archival material relating to medical refugees who came to the UK as a result of Nazism and World War II. Also, the Welfare Collection, generously donated by Charles Webster, former official historian of the NHS, was recently catalogued by a grant from the Nuffield Trust and is available in our library.

Disseminating our research outcomes among the academic community as well as the general public, policy makers and the media is central to our strategy. We have an impressive record of academic publications, including a new book series in the history of medicine with CEU Press. Through collaborative endeavours with arts organisations and museums, we are also exploring more creative approaches to engage lay audiences with the history of medicine. We have, for instance, collaborated with the English Department at Oxford Brookes in staging an immersive theatre production at Hampton Court Palace on the subject of Tudor medicine. Other examples of collaborations with museums include advising on a popular exhibition on the history of anatomical models hosted in 2009 by Wellcome Collection in London, and participating in events organised for the local community by the Museum of the History of Science in Oxford. The Centre also has close ties to universities in Europe, such as in Austria, Poland, Hungary and Greece, and has successfully convened numerous conferences and workshops at home and abroad.

Academic research dovetails with teaching, and we are currently drawing up a new pathway in the history of medicine as part of the History BA degree at Oxford Brookes. The History Department runs a History of Medicine MA course, which is an important link between our undergraduate and PhD programmes. The Wellcome Trust also contributes to the funding of an MA studentship, and we have been fortunate to see several of our students go on to win bids for doctoral studentships from the Trust and the AHRC. In recent years, we have run a

national PhD training programme in the history of medicine in collaboration with University College London. A recent exciting development is our contributing to a history of medicine pathway to the recently validated MA/MSc Cancer Studies course run by the School of Health and Social Care.

As the articles that follow illustrate, we are a thriving and innovative Centre (you can find out more at

ah.brookes.ac.uk/historyofmedicine), determined to break new ground in research, teaching and public outreach in the history of medicine, health and society.

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Paradise, Purgatory and Hell: experiences of the early modern plague hospital

JANE STEVENS CRAWSHAW

During outbreaks of plague, early modern Europeans faced mortality levels that we struggle to comprehend today. In order to describe their experiences of epidemics, people used the most vivid and apocalyptic vocabulary they knew, drawing comparisons with Biblical plagues and adopting religious rites and periods of purification in response to the disease.

Reading early modern plague writings reminds us that experiences of illness in the past were not the same as in the present and that responses to disease were shaped significantly by the context in which they were developed in terms of both time and place. This is true of public health policies in general and of the early modern plague hospital in particular, which makes these institutions a fascinating focus for a social history of public health. My project reveals the rich and varied history of these hospitals, which were significant parts of the political and economic as well as the social and medical structures of early modern towns and cities.

Among the various and notable studies of plague, it is rare to find extensive discussion of the victims; the sources are difficult and the terrifying statistics have often been left to speak for themselves.

My project adopts a new approach in the study of plague, making an institutional study of the *lazaretto*, a type of plague hospital first founded in Ragusa (Dubrovnik) on a temporary basis in the 14th century and set up permanently for the first time in Venice in 1423. These institutions were subsequently founded across centuries and across the world, yet they have received little serious study by historians. A return to the archives of northern Italy allows us to rethink traditional characterisations of early modern public health as misplaced and ineffectual, and illuminates the experiences of a cross-section of society as they endured periods of plague and quarantine.

Of the three contemporary descriptions of plague cited in the title of this piece, the most surprising to modern eyes is surely that of Paradise. Much of what has been written about early modern plague hospitals has focused upon the hellish nature of conditions. A number of contemporaries described the purpose and potential of the hospitals, however, in idyllic terms. Patients had no need to work on the islands and their care was largely paid for by governments, which provided food and wine as well as clothing and medical treatments. Some contemporaries suggested that the days of patients in isolation could be structured by religious rites and the general atmosphere could be one of prayer and praise. During the Counter-reformation, the potential for



Right: Saint Roch attending plague victims in a *lazaretto*. Oil painting by Giacomo Robusti.

these hospitals to heal the body and the soul, inspiring compassion and sometimes enabling conversion to Catholicism, was particularly emphasised, making the metaphor of Paradise an attractive one.

Contemporaries were familiar with the idea that the soul could be cleansed in Purgatory just as the body could be cleansed using purges as part of the medical pluralist system of care. Purgatory was used to describe the institutions reserved for those suspected of infection but who had not yet shown signs of the disease, along with their possessions. In Venice this hospital was known as the *lazaretto nuovo*. Beyond epidemics, these hospitals would have catered for merchants, whose valuable merchandise was disinfected using elements of the natural world such as air, sunshine, water and sand. A stay in quarantine was recorded as tolerable, if tedious. During epidemics in Venice much was done to minimise the sense of abandonment on the lagoon island of the *lazaretto nuovo* – including allowing visitors to the sites.

Hell is an understandable image for the plague hospital – institutions that, when placed under strain during the worst early modern epidemics, were said to have clouds of choking smoke billowing out from the fires that burned corpses and infected goods. Contemporaries described the choking smell of

vomit, just one of the horrible effects of the plague, and patients induced to madness, who would run and scream through the sites or hurl themselves out of windows, leading the authorities to strap them to their beds. Despite the best efforts of the authorities, plague hospitals, like wider cities, were transformed by the monstrous plague when it hit on an epidemic scale.

Plague hospitals were developed in Europe across three centuries and during that time were felt to be the best way to prevent and respond to the plague, despite controversies regarding their structure and administration. The nature of the *lazaretti* varied depending on whether they were used for the sick or the suspected and whether a city was infected. During epidemics, experiences varied too: the hospitals were used to treat rich and poor, young and old, men and women, and played host to episodes of birth and marriage as well as death. My study of these sites – their location, architecture, decoration and administration – illustrates that, whether resembling Paradise, Purgatory or Hell, they have much to reveal about early modern disease and society.

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Patient case records of the Royal Free Hospital

LYNSEY CULLEN

The literature on the health of the London population, and on hospital medicine and surgery, during the early 20th century, is minimal. More research is needed to widen our understanding of hospital practice and development by addressing the specific medical treatments and surgical procedures practised at a central London hospital. Hospital patient case records, moreover, are a neglected historical source, yet their contents can provide a unique and valuable contribution to our understanding of health, hospital medicine and patient identity.

Engaging with these historiographical issues, my doctoral project centres on a sample of 480 case records of the Royal Free Hospital, a central London voluntary hospital of the early 20th century. These records will be examined in order to identify the patients, the ailments from which they suffered, the treatments they received and their overall experience and use of the Hospital in the wider medical market. Records have been sampled from two surgeons and two physicians, from the years



1902, 1907 and 1912, the months of July and December, and of equal numbers of male and female patients. No previous study has made use of a sample of such records that is as statistically significant in size and scope.

My project has three main aims. It will contribute to the current historiography on the history of British hospitals, hospital doctoring and hospital patients. It will consider the time period between the late 19th century and World War I, for which we know comparatively little about hospitals' treatment regimes, the professional approaches of practitioners or the health of the population. It will also reconstruct the patient's experience and

Right:

The original Royal Free Hospital building on Gray's Inn Road, London, 1898.

use of the Royal Free in order to understand the role of the Hospital in the wider medical market, and to help fill a significant gap in the literature on patient experiences of medicine and treatment.

The Royal Free and its staff will be examined and a relevant institutional history produced as a backdrop to the study. While administrative, economic, socio-cultural and regional hospital histories are common, institutional histories for the largest urban areas, particularly London, remain surprisingly few in number. The Royal Free was an important and pioneering voluntary hospital of London, yet has never been the subject of an academic study in its own right.

The patient information contained on the cover pages of the case records will be analysed, including name, age, sex, marital status, occupation and address, in order to establish the patient base of the Royal Free during the early 20th century. This will allow a detailed analysis of the patient 'typology' of a medical institution to be presented for the first time, and compared with those of other institutions through the use of census records.

My project will also provide a much-needed insight into the changing health of the population during the early 20th century. It will chart the current and previous ill health suffered by the sample patients and their families, and will compare the ailments suffered by the Hospital's patients with the ill health and mortality of the wider London population. The nature of the medical and surgical treatment techniques and procedures conducted at the hospital will be examined from the daily notes contained in the case records.

This examination is both unique and essential to our understanding of how disease was conceptualised in the early 20th century, as very little is currently known of the health of the London population during this period, or of how hospital patients were treated.

Another important aspect of this project is to ask how and why patients came to make use of the Royal Free as a representation of patient consumer behaviour within the medical market. We know little about how and why patients made use of medical provisions throughout their lives. Patient histories detail the previous means of medical assistance the patients and their families had sought in their lifetimes, including other institutions, dispensaries or general practitioners. Such information allows for the Royal Free to be placed in the wider medical community of London during this time, and provide a rare and valuable insight into how people made use of the available medical provision.

To this end, my project will also strive to reconstruct the personal experience of the patients at the Royal Free. The contents of the patient records recall the length of each patient's stay at the hospital, and the contact they had with medical staff during that time. This information will be used in conjunction with other sources, included the 'Rules and Regulations' reports for the period, annual reports and almoners' records, in order to gain an insight into life as a patient at a central London voluntary hospital, and to gain a better understanding of the relationship between the patient and their doctor.

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Expertise, ethnicity and equity: growth points in healthcare in apartheid South Africa

ANNE DIGBY

Urban developments in South African healthcare, both past and present, have received more attention than rural ones. I am recalibrating this focus by giving importance to non-urban areas, not least because Africans – the demographic majority of South Africa – live there in huge numbers. I have been fortunate in discovering very good sources on rural healthcare, and I shall briefly discuss three examples here: the Valley Trust in KwaZulu-Natal, the mission-run All Saints Hospital in the Eastern Cape, and the little-known outreach activities of academic hospitals, which, from their urban location, extended expert help into rural areas.

The Valley Trust made available its extensive, continuous documentation on its history and also facilitated interviews with its staff and with local traditional healers. The Trust was an independent voluntary organisation set up by Dr Halley Stott during the late 1940s, in order to encourage holistic health within the evocatively named Valley of a Thousand Hills. The Trust encouraged promotive and preventive healthcare for Zulus living on its extensive site through good nutrition, fostering the development of individual and communal vegetable plots as well as fish ponds, and with support given by an agricultural demonstrator and by dietetic classes. Importantly, Zulu customs and traditions were respected, including the work of traditional healers with local people. The Trust's nutritionally focused programme developed side-by-side with the government-financed Botha's



Hill Health Centre, which brought modern scientific medicine to local people. Unusually amicable relationships existed between the Centre's staff and traditional healers. Within the Trust, healers were recruited as community health workers; they promoted the virtues of good nutrition among their clients, were assisted in growing medicinal plants in their own gardens and also attended workshops.

The Trust's reforming promotive and preventive health methods were disseminated to visiting medical and nursing students, while residential courses on nutrition as the path to better health were organised for healthcare personnel from all over southern Africa. Among those attending were nurses from mission hospitals in the Transkei. Beginning in the 1970s, however, South Africa's extensive network of mission hospitals was nationalised by the apartheid government, preparatory to handing the institutions over to nine newly created 'homelands' or 'Bantustans', where they were intended to act as the linchpins of hospital-centred district health systems for the local African population. Mission hospitals in South Africa have not been the subject of detailed historical analysis, despite the fact that they – alongside government district surgeons – were the backbone of healthcare in many rural areas.

Extensive papers on the later years of one Transkeian mission hospital – All Saints Hospital – were collected by a former medical superintendent, Dr Ronald Ingle, and I am fortunate in having been given access to them. All Saints was in the Engcobo district and served about 140 000 Africans in 1970. The local population's demand for the hospital's services continuously increased, so that facilities might be over-stretched. The hospital provides an interesting case study of how a well-run rural hospital developed a prototype district health service with a network of stationary and mobile clinics bringing medical care to traditional communities, particularly to mothers and babies. Given extensive local malnutrition in this rural area, African health educators were employed as mid-level health workers in order to promote the Valley Trust's ideas of good nutrition.

Above:

The children's ward of All Saints Hospital in the Engcobo district, with Dr Pauline Ingle, 1954.

Right:

A local Tembu mother and child.

in Pretoria and the way in which they tried to support under-resourced rural areas. Groote Schuur Hospital periodically sent out consultants to a variety of hospitals in the Eastern Cape in order to help provide some in-service training for staff, and to see complex cases before referring selected patients back to Cape Town for specialist treatment. Ga-Rankuwa's Department of Family Medicine provided weekly supportive visits to understaffed clinics in the neighbouring 'homeland' of Bophuthatswana.

These three case studies are located within the wider context of health policy and provision, and illustrate how the progressive ideas contained in the Gluckman Report of 1944 (which had recommended a national health service of promotive, preventative and curative

Beginning in the 1970s, South Africa's extensive network of mission hospitals was nationalised by the apartheid government, preparatory to handing them over to nine newly created 'Bantustans', where they would act as linchpins of district health systems

medicine) were not altogether lost in apartheid South Africa, as is usually depicted. Remarkably, some of these ideas – including district health services, networks of rural/urban health services, a strategic place for mid-level health workers, and a recognition of a legitimate place for traditional healers – had a more continuous history and were to find their place in the transformative health policies of the newly elected democratic government after 1994.

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Female cancer: a transnational perspective

YOLANDA ERASO

One of the most illuminating examples of transatlantic crossings in the history of medicine is in the area of cancer diagnosis, where the case of colposcopy, a technique for the early detection of cervical cancer, is instructive.

Created in 1925 by the German gynaecologist Hans Hinselmann, the technique relied on the colposcope, an instrument for the visual inspection of the cervix, which initially consisted of a pair of magnifying lenses fixed on a tripod with a light source. After staining the surface of the cervix with acetic acid, the colposcope allowed a trained professional to visualise the morphology of the epithelium, detecting its abnormalities or cancerous areas, and facilitated the performance of a directed biopsy. Although the technique became relatively well known in Austria, Switzerland and Germany, it was its adoption in Argentina and Brazil that saved colposcopy from oblivion during and after World War II. Here, medical contacts played a distinctive role. They were the result of a well-established practice of academic exchanges that since the 1920s led South American doctors to complete their medical training in European hospitals, with German clinics becoming an obligatory visit for surgeons and gynaecologists. It was within the dynamics of international exchanges that Hinselmann trained in his clinic in Altona (Hamburg) two prominent figures of Argentinian and Brazilian gynaecology: Alfredo Jakob and João Paulo Rieper. On their return, both doctors started the colposcopic examination of women in outpatient consulting rooms, the Sardá Maternity in Buenos Aires (1934), and the gynaecology clinic of the University of Brazil in Rio de Janeiro (1940).

Its adoption in Argentina and Brazil saved colposcopy from oblivion during and after World War II

By 1945 a new technique for cervical cancer detection started to be promoted with the support of the lavishly funded American Cancer Society: the cytological examination of vaginal smears devised by Papanicolaou and Traut in 1941 (Pap smear test). While international congresses, training programmes and large-scale American screening studies helped the Pap test to spread rapidly throughout the world, the end of War further delayed the diffusion of colposcopy owing to Hinselmann's political connections with the Third Reich. By this time, however, colposcopy services had already been organised in Argentina and Brazil, and

there were Hinselmann's disciples in South America who helped him and his diagnostic tool to gain a place in the clinic. In 1949, 1951 and 1957 Hinselmann was invited to Brazil, Argentina and Uruguay respectively, where he was able to share important improvements to the technique, while developing an intensive training programme for doctors. Subsequent academic exchanges of South American gynaecologists and participation in international congresses helped to spread the technique in Europe and the USA.

Towards the end of the 1960s colposcopy finally found a place in European and American screening programmes. Colposcopy clinics were opened within women's hospitals to assist with the referral of abnormal cervical smears. However, a fundamental difference was established with respect to South American services, naturalising, in turn, perdurable practices: in the South American countries most gynaecologists were trained in both techniques, and both tests were carried out during the same visit to the clinic; but in Europe and the USA, colposcopy was only reserved for the examination of patients with abnormal Pap tests. Although, technically, none of these tests is considered infallible, their transatlantic migration has significantly contributed to the naturalisation of 'early detection' policies in cancer care.

Cancer diagnosis is one of the topics investigated in my next monograph, which explores major developments in the history of female cancer. With an initial focus on 1920–60 Argentina, my research (funded by a Wellcome Trust fellowship) adopts a transnational framework – involving South America, Europe and the USA – in order to investigate the creation of specialised institutes, the role of philanthropic leagues, the development of different treatments and clinical research. One aspect that my research highlights is that the importance of the place is given by its value as a point of transit, for its contribution to the circulation and displacement of specific ideas. Place also interests me for the singular ways in which societies adapt and implement migrating medical practices, facilitating our understanding of what has finally moulded different experiences of cancer management in similarly configured healthcare systems. Moreover, the transnational and comparative approach of my research has allowed me to integrate history of medicine into an interdisciplinary taught programme – involving disciplines including sociology, healthcare sciences, psychology, biology and law – that has developed an innovative MSc in Cancer Studies at Oxford Brookes University.

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When good neighbours pay for your medical bills (and so much more)

TUDOR GEORGESCU

Integrating ethnic minorities as actors, rather than mere bystanders or victims, into our exploration of interwar medicine can reveal a fascinating new dimension to how local communities engaged with the wider knowledge transfer markets of their time. Widening historiography's current focus on nation-states would allow for a new, comparative perspective on how ethnic minorities not only contributed to pan-European debates on public health and hygiene but also adapted and tailored these to their local needs.

An intriguing case study of how international currents in thinking on social and race hygiene, amplified by the flurry of eugenic and fascist ideologies that swept across the continent and beyond, were appropriated by an ethnic minority to great effect is offered by the Transylvanian Saxons in interwar Romania. The Saxons had created substantial medical, political, economic and sociocultural structures whose surprisingly intact archives chronicle their development throughout the tumultuous interwar period they began as new citizens of 'Greater Romania'. Reconstructing the history of interwar Saxon medicine can hence resort to individual archives of prominent physicians along with the vast archives of the Saxon Protestant Church and the Saxon political establishment. While the Church was in many ways the minority's primary healthcare provider – be that through its stewardship of schools or the extensive network of over 200 welfare facilities ranging from orphanages to spas to clinics to national health exhibits – my project focuses on the 'National Neighbourhoods' revived by the empowered fascist 'Self-Help' movement in the 1930s.

One of Saxon fascism's most consequential innovations, Wilhelm Schunn's 1933 reinvention of the historic 'Neighbourhoods' model of community support networks (which had been banned by Hungary in the late 19th century) embodied remarkable social and ethnic engineering projects. The flagship Neighbourhood network was set up in Sibiu/Hermannstadt, which for its part was divided into 39 individual neighbourhoods, each conferred with a distinct geographic and historic identity. These new, national Neighbourhoods oversaw a comprehensive community portfolio spanning financial aid with medical bills for individual members to the implementation of Saxon fascism's flagship eugenic policy – the 'Honorary Gifts' awarded for a fourth or subsequent child.



The 'honorary gifts' offered a practical solution to both a perceptibly dwindling Saxon Lebensraum and the much-complained-about loss of racial substance, and came in the form of a one-off payment of a staggering 20 000 lei for the fourth child, and a further 10 000 lei for each subsequent one (the overwhelming majority of recipients had a monthly income around the 2–3000 lei mark). But this 'holy money' was conditional: first, upon the approval of a spending plan that, in most cases, revolved around building or improving the family home (reflecting the fascist movement's founding goal of raising living and hygiene standards in poorer quarters, as well as, naturally, for propagandistic value). Second, and more contentiously, applicants had (at least in principle) to undergo a race-hygiene 'hereditary fitness' exam at the hands of an appointed Saxon medical professional in a bid to ensure this incentive for larger families only benefited those perceived as healthy and valuable. In other words, they amounted to a remarkable form of eugenic welfare. These honorary gifts blurred the boundaries between public and private, creating a new, sacred space in the form of strictly structured ceremonial conferrals extolling the customary virtues of blood and soil.

To underline their public accountability, the Neighbourhoods published monthly 'donations lists' detailing who received what for what purpose from their neighbours. These lists of recipients of 'case-specific' medical aid, of those conferred with honorary gifts or other forms of 'neighbourly help' are immeasurably valuable sources. More significantly still, the Romanian National Archive in Sibiu houses the vast but barely touched National Neighbourhoods archive, detailing the activities of the Central Office and its 22 individual departments as well as each of Sibiu's 39 individual Neighbourhoods. Excavating this substantial resource will allow for the creation of detailed demographic, socioeconomic and medical profiles for these particular Neighbourhoods. This is a tantalising

Above:

Saxon families received 'honorary gifts' for their fourth and subsequent children.

From: Schunn W, Pastor O. *Die Ehrung des Kinderreichtums bei den Deutschen in Rumänien. Hermannstadt: Krafft & Drotleff; 1940*

prospect that would allow for an in-depth investigation of the specific impact medical aid and eugenic welfare had on the lives of its recipients.

The history of Saxon medicine in Transylvania is itself a nascent and sparsely populated field, and offers substantial room for further research, far more so than the example offered here can fully explore. And while the Saxon Protestant Church's own, and particularly active, welfare committee is itself in urgent need of further study, the particular historiographic importance of the Neighbourhoods also lies with the attempts

undertaken to export this model to other German minorities in Romania and abroad, such as the Sudeten and Baltic Germans. The Neighbourhoods, therefore, constitute a valuable case study of the transfer and appropriation of eugenic theories on nation and race, of how they were subsequently legislated for through the reinvention of a historical means of local self-help, but also of attempts made to network and engage with other minorities.

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Drug safety legislation and pharmaceutical R&D in Britain, c.1950s–70s

VIVIANE QUIRKE

Medical historians have increasingly engaged with the public–private dichotomy, and as a result of their work it has become clear that there has been a porous and fluid frontier between the different sectors involved in organising and providing healthcare. This is no less true of the boundary between regulatory agencies and the pharmaceutical industry, the subject of my current research.



As it emanates from regulatory agencies and its main aim is to protect the health of patients by controlling the pharmaceutical industry, drug safety legislation can be assumed to belong to the public sphere. Conversely, it can be argued that pharmaceutical R&D, which has the principal purpose of generating profits for drug companies, is squarely situated within the private arena. However, some scholars have claimed that 'corporate bias' has moulded drug regulation, often at the expense of consumers/patients, thus advocating a clearer separation to be introduced between the public and private spheres in relation to pharmaceuticals. Yet companies and their activities are often left out of these analyses. Using the organisational files and

research reports of Imperial Chemical Industry's (ICI) Pharmaceutical Division, which became one of Britain's foremost drug companies in the second half of the 20th century, I have endeavoured to redress this imbalance and fill a significant gap by examining the impact of drug safety legislation on pharmaceutical R&D.

My research highlights the extent to which this legislation was internalised, helping to shape the organisation and practices of firms such as ICI. Indeed, ICI adopted organisational and other R&D practices in response to the British regulatory authorities, and – as it turned its attention towards the lucrative US market – to the Food and Drug Administration's requirements. More specifically, the need to demonstrate the safety *and* efficacy of drugs before marketing, which became a legal requirement in the USA in 1962 and the UK in 1968, stimulated the integration of biomedical disciplines and the adoption of statistical methods and physical instrumentation within ICI. However, this evolution participated in a longer trend, which began in the mid-1950s and reflected not only the development of academic disciplines in the era of biomedicine but also the growing complexity of drug discovery in an increasingly competitive environment.

The impact of drug safety legislation on ICI, which exemplifies the development of Britain's pharmaceutical industry after World War II, can therefore be summarised thus:

- Drug safety legislation encouraged the standardisation, formalisation and codification of R&D practices (as illustrated by ICI's Inderal or Nolvadex Development Reports).
- It stimulated the integration and assimilation of biomedical disciplines (e.g. pharmacology, biochemistry, toxicology) in the drug industry.
- It led to an alignment of pharmaceutical R&D and clinical research.

Above:
In business,
science carries
risks and rewards.
Mattehw Herring

- It helped to institutionalise links between industry and the clinic (with the creation in 1969 of ICI's Clinical Research Department, for example).
- It helped to institutionalise links between industry and regulatory authorities (with ICI's Safety of Medicines Department, created in 1971).

Moreover, the history of ICI's beta-blocker project, which this research has examined in greater detail, also shows that drug safety is a flexible concept. Like the drugs themselves, it circulates between the public and private domains, evolving along with the scientific and clinical knowledge accumulated in the process of searching for successful products. The search for commercially and therapeutically successful beta-blockers confronted researchers with numerous scientific and clinical uncertainties and dilemmas. As well as propranolol (Inderal) and atenolol (Tenormin), which helped to prolong and improve the quality of life, it led to the practolol (Eraldin), responsible in the

early 1970s for blindness or even death in a significant number of patients. Thus, ICI's beta-blocker project helps to highlight the changing and contested nature of drug safety, which is shaped by related and at times competing interests, whether those of industrial or academic scientists, of clinical researchers, of company managers, or of regulatory agency officials, on both sides of the public-private divide.

My research therefore adds to the growing corpus of literature on the changing definitions, perceptions, experiences and expectations of public and private spheres that are at the heart of our understanding of the dynamics of the mixed economy of healthcare, and contributes to the Centre for Health, Medicine and Society's Wellcome Trust Strategic Award.

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Victims of human experiments and coercive research under National Socialism

PAUL J WEINDLING

This project aims to provide a biographical analysis of the individuals who were experimented on, or otherwise abused for medical research in National Socialist Germany and in territories under German occupation from 1938 to 1945.

The basic tasks are to identify how many victims and perpetrators there were and to develop biographical profiles, through a comprehensive study of war crimes, Holocaust and compensation archives. Another aim is to establish a structural history of the unethical experiments in terms of when and why these occurred. The project thus covers all experiments and other coercive medical abuses for research in camps and prisons, and other situations where subjects were not at liberty. The analysis extends to extracting body fluids, and using body parts as anatomical specimens. The project also keeps a running documentation of victims of related atrocities, such as forced blood transfusion. The project, supported by the Arts and Humanities Research Council, is co-directed by Marius Turda and me; the postdoctoral post has been a job share between Anna von Villiez and Tudor Georgescu, and the PhD studentships are held by Nichola Hunt and Aleksandra Loewenau.

As the worst of the Nazi researchers took their victims to the point of death, the question naturally arises as to how many victims are known not to have survived the experiments, or died afterwards as a consequence of



these experiments. The project will answer such questions by means of a sophisticated relational database. Interesting discoveries to date include hitherto-unknown series of experiments, and persons used repeatedly for experiments, a practice possibly occurring in a number of camps.

To date, accounts have been perpetrator-oriented, focusing on such notorious Nazi doctors as Mengele and Karl Brandt, and not examining the vast evidence regarding their victims. Large collections of records have been overlooked by German historians of the period. In part this is because one has to work internationally. The project has located major collections of hundreds, and often many thousands, of victims' files in Belgrade, Berlin, Geneva, Koblenz, Paris, Prague, Budapest, Athens, Warsaw and Washington, DC. Fortunately, the International Tracing Service records from Bad Arolsen have become increasingly available. Negotiating access

Right:

A dead body being carried from Belsen concentration camp, post-liberation. RAMC Muniment Collection, in care of the Wellcome Library

has involved a series of privacy agreements, so making the research all the more labour-intensive and time-consuming. Concentration camp memorial collections have been helpful, when our project has provided previously unknown documentation and the memorials have assisted with victims' identification.

The victims' views come through in unpublished depositions, and we have found both published and unpublished autobiographies. Victims' descriptions vary greatly from those of perpetrators, not least in terms of the personnel and procedures involved. The extent of resistance and sabotage emerges: water temperature was altered, vaccines attenuated and sterilisations disrupted. Here the victims found support from prisoner assistants involved in the administration of the experiments.

To this end, the project has to undertake an immense amount of record linkage. This is because there are collections relating to the time of the actual atrocity and to the different stages of postwar compensation, itself a story of considerable complexity. Some of this research is time-consuming, and a named victim source is crucial, so as to avoid double-counting. We can analyse – for example – neurological experiments in a published wartime work when patients' names are partly anonymised, and then check records on 'euthanasia' killings at a clinic to which patients were transferred.

Documenting the entirety of victims was proposed in 1946 by the psychiatrist John Thompson, but the scheme

was undermined with the onset of the Cold War. This project follows from the edition of the Nuremberg Medical Trial by Angelika Ebbinghaus and Karl-Heinz Roth. When our project was initially proposed, it met with the negative response that it was nothing more than commemoration. The very taxing research involving considerable record linkage encountered scepticism. But determination saw the project funded, and will secure completion. Working through many thousands of victims' narratives means that, inevitably, one finds sources that merit fuller analysis. Some of these issues were pursued at a summer workshop on Nazi medical atrocities at the United States Holocaust Memorial Museum in August 2010. I am also engaged on related projects with the Foundation for Memory, Responsibility and the Future (on recent compensation for victims of experiments), and with the German Association for Psychiatry (on psychiatrists under National Socialism).

Ultimately, this project (see ah.brookes.ac.uk/research/project/vhens) will be pioneering in terms of providing a full reconstruction of a victim population, as other groups of Nazi victims have never been fully reconstructed. Moreover, the implications of the project findings for medicine under National Socialism as well as bioethics will be profound.

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The archaeology of medicine shrines and substances in northern Ghana

TIMOTHY INSOLL

The archaeology of medicine shrines and their associated substances in West Africa has been neglected. Yet shrine-based medicine continues to play an important role in indigenous medicine in the region. Since 2004, and funded since 2008 by the Wellcome Trust, a major archaeological research project has focused on northern Ghana with the aims of exploring the substance, materiality and chronology of medicine shrines.

Four seasons of fieldwork have been completed since March 2008, with three concentrating upon the Tong Hills, home of the Talensi people and site of hundreds of shrines. Excavations undertaken at one shrine, Tongnaab Yaane, indicated that while the rock shelter that is its focus has been used since at least late first millennium BCE, the shrine itself seems to have been established considerably later: material suggests around

Right:
The 'red' medicine
from Yaane.
Timothy Insoll



the 17th century CE. Yaane is perceived as very powerful in, for example, curing women of infertility, and is a shrine functioning for good rather than evil. Its power has meant that an extensive demand exists for the right to operate offshoots, or 'franchises' of Yaane elsewhere.



This is achieved through the agency of the *boarbii*, literally ‘the Shrine’s child’, which is a cow horn filled with unspecified medicine that is obtained from Yaane and given to the franchisee, following the payment of a fee usually in the form of animals for sacrifice. Allied with the *boarbii*, ‘red’ medicine, clay from within Yaane, is also supplied in pellet form. This is also believed to be very powerful and is reflected in its name, *Bagre Tan* (‘God’s soil’). X-ray fluorescence analysis indicated that this clay had not been altered or mixed by anthropogenic action and contained no obvious pharmacological agents. The *boarbii* is then taken to its new home and can be operated independently for healing and other purposes on condition that the franchisee periodically revisits Yaane to fulfil further sacrificial obligations. Our research has recorded *boarbii* among most of the neighbouring ethno-linguistic groups in northern Ghana, and it is known that numerous Yaane *boarbii* exist in southern Ghana, and in adjacent countries such as Togo and the Ivory Coast.

Yaane is one, albeit the most successful, of several shrines competing for external revenues in the Tong Hills. These shrines are also used by the Talensi for healing and other purposes but most Talensi medicine would appear to be not directly linked with shrines, certainly as a source of medicines. In total 33 plant-based medicines and ten predominantly made from other substances were identified, with seven directly linked with shrines. As for indirect links, it is very difficult to divorce any aspect of Talensi medicine from a ritual dimension or a connection with shrines because diagnosis could relate to ritual and potentially also to shrines through the operation of divination.

Investigating the materiality of Talensi medicine shrines, substances, and practices in archaeological contexts has in general proved difficult. Much of the material, and its associated behaviours, is ephemeral and will elude archaeological identification. Medicine storage, for example, recorded in relation to 15 plant ingredients, would not be discernible archaeologically as the Tong Hills do not provide the theoretically ideal conditions of preservation required. More positively, the disposal of medicines and medicinal equipment has been evident archaeologically. A feature composed of

multiple-layered broken potsherds was recorded deliberately inserted and thus hidden under a large granite boulder. This was dated to 1463–1553 CE and was interpreted by a Talensi colleague as a means of disposing of medicine pots, a mechanism for getting rid of vessels that one may not have wanted people to see.

More recently, however, as a further development of this project, significantly greater archaeological evidence for the potential disposal of medicine- or healing-related equipment was recorded in an area about 60 miles west of the Tong Hills. Excavations that I conducted in collaboration with Dr Benjamin Kankpeyeng of the University of Ghana, Legon, recovered an assemblage of 92 complete and fragmentary fired clay figurines of humans and animals, both real and fantastical. The mound, which was partially excavated in January 2010 at Yikpabongo, is one of hundreds of mounds recorded in the Koma Land region that were previously thought to be burial mounds.

The Yaane shrine is perceived as very powerful in, for example, curing women of infertility. Its power has meant that an extensive demand exists for the right to operate offshoots, or ‘franchises’ elsewhere

Interpretations based on the recent fieldwork suggest that these mounds may have been shrines, perhaps related to traditional healing practices. Some of the figurines had deep holes incised in them, seemingly for offering libations, and were frequently found in association with grinding stones, stone pounders and numerous fragments of ceramic vessels. Perhaps, in part, these represent the residues of materials and equipment used in medicine preparation or for healing rituals, and interred or enshrined as powerful objects and substances, analogous in some ways to the Talensi medicine pot feature previously described. A disarticulated human skull was also recorded in the mound below a cluster of figurines, and radiocarbon-dated to 1010–1170 CE. This had been placed face down with the jaw removed and placed to the east in association with fragments of human long bones. The teeth had been snapped out and placed in a pile to the south. No other human remains were recorded.

Could this be the remains of a powerful healer or someone of ancestral status? The answer is not known, but what is apparent is that besides being challenging, research into the archaeology of medicine shrines and substances in northern Ghana is engrossing and the next field season in January 2011 is eagerly awaited.

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Above:
Interior of the Tongnaab
Yaane Shrine.
Timothy Insoll

Medical and social development of the English and Welsh Blood Service: the evolving status of venepuncture

TIM SANDLE

My thesis aims to examine the social and medical development of the Blood Service of England and Wales, with a focus upon the job roles and occupational skills of its medical and non-medical staff. The thesis begins with the origins of the Blood Service in the 1920s and continues the examination into the early 2000s when the service merged with other services specialising in organ donation and plasma products. One of the key findings, which has implications for other medical skills and technologies, is how such skills are 'devalued' by being passed through occupational hierarchies.



The Blood Service of England and Wales was established as a large-scale healthcare service in World War II, and then expanded considerably as the National Blood Transfusion Service, part of the newly created NHS. The origins of the service can be traced back to Camberwell, London. In 1921 the British Red Cross, at the initiative of Percy Lane Oliver, ran a blood donation session at King's College Hospital. For this pioneering transfusion the veins of the donor were cut open to extract blood and then tied back together. From this beginning, Oliver established a London-based mobile service, which increased activity from 13 donations in 1922 to 428 in 1925. Later, in 1937, the first permanent blood bank was opened in Ipswich. These plans were advanced during World War II, when the high casualty rate increased the demand for blood and technological developments led to blood collections becoming possible on a larger scale. The Blood Service grew rapidly during the 1950s, fuelled in part by advances in new surgical techniques such as open-heart surgery, which increased the demand for blood, and by 1966 the number of registered blood donors surpassed one million for the first time.

Above:
A nurse taking blood from a patient.

While the scope of the operations of the Blood Service involves a wide range of serum and tissue work, its key purpose is the collection of blood from donors. Here whole blood (red cells) is collected from donors by a specialist technique called venepuncture, whereby blood is removed through the antecubital fossa in the elbow using a needle and is transferred into a specially designed plastic bag. The amount of blood collected per donation is one 'unit' (equivalent to 450 millilitres, usually collected within ten minutes and representing around 13 per cent of the total blood volume in the average human body). Collected blood is transferred to a blood bank for purification (cell separation), safety testing and the addition of chemicals, which extend the expiry time to 28 days.

From the research in the Blood Service one of the most interesting historical processes is the change to occupational skills and the transfer of some skills downwards through the occupational hierarchy. This was most notable in terms of venepuncture, and the historical change in the status of this skill appears inversely related to the increase in blood donations and expansion of the workforce.

Before the 1950s, blood transfusion was undertaken on a relatively small scale. The blood collection process was very labour-intensive and the donation processes were administered by physicians, with nurses in a support role backed up by volunteers. Despite the heavy reliance on volunteers, the majority of the tasks undertaken – blood collection, processing and transfusion – required the use of relatively sophisticated medical techniques. During the 1930s and 1940s a typical blood collection session dealt with four donors at a time and 12 donors a day. The staffing requirements were typically for one doctor, four nurses, two receptionists (ancillary nurses), one general assistant and one driver. The presence of a doctor, absent from blood collection sessions today, reflected the relatively high chance of adverse reactions occurring, as well as being indicative of a rigid demarcation of roles. The class and gender basis of the role separation of doctors, who were predominantly male, and nurses, who were near universally female, is reflected in the medical textbooks, journals and monographs of the time (such as the nurse in a 'subservient role' and even being on hand to supply Bovril to donors). Even by 1954 the training manual for a transfusion nurse stated that when collecting blood all unusual observations must be immediately notified to a doctor. Despite the hierarchy of occupations, the consensus of the medical texts was to describe the work of the donor collection teams as 'skilled'.

Postwar, as blood collection and transfusion became more widespread, the labour-intensive and routine nature of the role became less attractive to the medics who had previously monopolised the ‘scientific technique’ of venepuncture. In the 1930s, venepuncture was regarded as highly ‘skilled’ and the preserve of doctors. In a process of engendering, skill revaluation and substitution, blood collection tasks such as venepuncture were transferred down the occupational hierarchy to lower-paid registered nurses. This act of substitution was undertaken by reclassifying venepuncture from a (chiefly male) ‘medical skill’ and recategorising it as a (feminised) ‘nursing’ task. As the demand and application of blood and blood products grew considerably in the 1970s a second transfer of the task of venepuncture occurred.

The expansion of blood collection required significantly greater numbers of workers to be hired. This led to the creation of an ancillary nurse role described as a Donor Collector (later Donor Carer). The relationship between the registered nurse and the Donor Carer is similar to the occupational division between registered nurses and Health Care Assistants seen within hospitals. To facilitate this, venepuncture was reclassified as a lower-valued ‘technical’ task with its absorption into the duties of Donor Carers. With this displacement down the occupational hierarchy, the complexity of the task did not alter, still requiring a detailed knowledge of biology and physiology.

What is significant from the historical analysis is not simply how occupations alter over time but also how

professional groups interact in terms of role demarcation and how employers achieve wage bill savings by reallocating tasks from higher-paid staff to staff at lower grades. The consequent increase in the numbers of lower-paid workers at the expense of higher-paid occupations allows the total wage bill to be reduced (inherent within employer strategies are ideological assumptions about the relative fairness of the pay structure). The redefinition of a grade is often associated with increasing the workload.

Often in sociological literature, task changes between occupations is described as ‘deskilling’. The concern with the term deskilling is that it undervalues the skills of lower-graded posts, which are often not dissimilar to the higher-paid posts. Sometimes new technologies can enable a task to be done with less ‘skill’, but not always. With the example of venepuncture, the task remains as ‘skilled’ today, performed by some of the lowest-paid staff in the NHS, as when practised by the medics who bestrode the top of the occupational wage hierarchy. There are also wider implications in terms of social divisions, for jobs heavily populated by women are most commonly the lowest paid, as are those that are not considered to be classed as a ‘profession’. Thus the case of venepuncture locates the historical evolution of occupations in both a medical and a social context.

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Screening the Nurse: Call to Service

**ELISABETTA BABINI, TOBY HAGGITH,
ROSEMARY WALL AND
ANNE MARIE RAFFERTY**

‘Screening the Nurse: Call to Service’ is a collaborative project between the Florence Nightingale School of Nursing and Midwifery and the Imperial War Museum in London. The Museum’s collection of nursing films exceeds 130, from different wars and continents. Our collaboration combines academic expertise with public engagement.



Right:
Still from *Red Cross
Pluck* (1914).
Trustees of the Imperial
War Museum,
IWM FLM 4193

The 150th anniversary of the School, established through fundraising in recognition of Nightingale’s work in the Crimean War, inspired a film programme on the theme of nursing and war at the Imperial War Museum (IWM) on 27 and 28 February 2010. The event focused on British nurses, including popular and less

celebrated figures. In selecting the films, Dr Rosemary Wall and Elisabetta Babini aimed at a wide geographical breadth, spanning British – and in two instances Soviet and Australian – involvement in theatres of war worldwide. The cinematic genres ranged from melodramas and recruitment films to documentaries,



footage and newsreels. Biopics on Edith Cavell and Florence Nightingale were kindly loaned by the British Film Institute.

The first day was dedicated to the Crimean and World War I. A stimulating programme of short films of different genres opened the event, the silents accompanied by a film pianist, Stephen Horne. The first subject examined was the nursing martyr Edith Cavell. To follow, guest speakers Dr Christine Hallett (University of Manchester) and Professor Edgar Jones (King's College London) introduced, respectively, films on 'plucky nurses' in World War I and on war neurosis.

The afternoon programme began with a documentary on Mary Seacole, *The Real Angel of the Crimea* (2005), introduced by Professor Elizabeth Anionwu (Thames Valley University). The heated roundtable discussion that followed included Helen Rappaport, author of a book on women in the Crimean War, Paul Kerr (London Metropolitan University), the producer and co-director of the film, and Dr Jessica Howell (King's College London), who has published on Seacole. To conclude, Andrew Lambert (Laughton Professor of Naval History at King's) and Professor Ginette Vincendeau (Head of Film Studies at King's) provided insights into the biopic on Nightingale, *The Lady with a Lamp* (1951).

On the morning of the second day, we presented films from World War II. International productions spanned Western and Eastern Fronts and diverse cinematic genres. The session included *Memory of the Camps*, footage on the nursing of concentration camp survivors in Bergen-Belsen (Germany).

The afternoon session focused on the 1960s to the present, including recruitment films and interviews about nursing experiences in the Falkland Islands, the Balkans, Kenya and Iraq. The last session was discussed by Major Patricia Gibson (Queen Alexandra's Royal Army Nursing Corps). Final commentaries on the event were headed by Professors Vincendeau and Rafferty.

Evaluations of our selection of films and speakers were generally very positive, with the programme scoring mainly fives and fours (one = poor, five = excellent) on the feedback forms. Further topics for future public screenings were suggested, and there was a view that for future events, a shorter programme of films would allow more time for discussion with the audience. The most attended session was Mary Seacole's, with 45 people.

Above:
Still from *Under the White Cross* (c. 1965).
Trustees of the Imperial War Museum,
IWM FLM 4192

Toby Haggith of the IWM welcomes subject specialists to examine material from the Museum's films and video collection. Unlike other, better-known moving image collections in the UK (such as the BFI National Film and Television Archive or the commercial newsreel collections), the IWM collection does not contain many feature films or television programmes from public broadcasters that are accessible to the general public. Much of the collection comprises mute, unedited military record film, training and propaganda films and assessment footage of trials and experiments – material that is not just inscrutable to the outsider, but is far from most people's definition of 'cinema'. While the curators work hard to put this footage into context, insights are enriched by experts with thorough knowledge of topics outside the IWM cinematic domain.

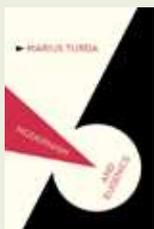
Overall, the interdisciplinary event illustrated the great potential of the multi-stranded discourse of the medical humanities

Not only did the event's format and focus enable us to show a number of related films that have rarely, if ever, been shown publicly, but also speakers gave valuable context for the screenings. Major Gibson personally knew some of the video protagonists of British military operations in Macedonia, Kosovo and Kenya. Moreover, the knowledge that the speakers brought to items in the collection will help the Museum's curators to update and enrich catalogue entries. Overall, the interdisciplinary event illustrated the great potential of the multi-stranded discourse of the medical humanities.

The proof of a successful collaboration is when it develops beyond the event, and there are already signs that 'Screening the Nurse' has a good 'afterlife'. For example, the IWM has invited Edgar Jones to view other films in the collection covering battle trauma and mental fatigue, so that catalogue entries can be updated to provide a greater understanding of related items in the collections; and it is currently in discussion with Anne Marie Rafferty about further collaborations, such as in establishing a series of screenings and seminars for students of nursing and midwifery and the public. On 17 September 2010, we presented a mini version of 'Screening the Nurse' at the Wellcome Collection, as part of the evening all-building spectacular on nursing and midwifery, 'Handle With Care'.

Elisabetta Babini is a doctoral candidate in Film Studies, the Florence Nightingale School of Nursing and Midwifery, and the Centre for the Humanities and Health, King's College London (E elisabetta.babini@kcl.ac.uk). **Toby Haggith** is a Film Curator at the Imperial War Museum (E thaggith@iwm.org.uk). **Rosemary Wall** is a Research Fellow in the history of nursing at the Florence Nightingale School (E rosemary.wall@kcl.ac.uk). **Anne Marie Rafferty** is Dean of the Florence Nightingale School (E anne_marie.rafferty@kcl.ac.uk).

New publication



Modernism and Eugenics by Marius Turda

Is the nation an 'imagined community' centred on culture or rather a biological community determined by heredity? *Modernism and Eugenics* examines this question from a bifocal perspective. On the one hand, it looks at technologies through which the individual body was redefined eugenically by a diverse range of European scientists and politicians between 1870 and 1940; on the other, it illuminates how the national community was represented by eugenic discourses that strove to battle a perceived process of cultural decay and biological degeneration. In the wake of a renewed interest in the history of science and fascism, *Modernism and Eugenics* treats the history of eugenics not as a distorted version of

crude social Darwinism that found its culmination in the Nazi policies of genocide but as an integral part of European modernity, one in which the state and the individual embarked on an unprecedented quest to renew an idealised national community.

Marius Turda is the founder of the International Working Group on the History of Race and Eugenics based at Oxford Brookes University, and the series editor of *Studies in the History of Medicine* with CEU Press in Budapest. He has published widely on the comparative history of eugenics and race.

Published by Palgrave Macmillan (www.palgrave.com). ISBN 978-0-230-23083-5.

Forensic Cultures in Interdisciplinary Perspective

ROSS MACFARLANE

This international conference, at the University of Manchester's Centre for the History of Science, Technology and Medicine in June 2010, brought together a range of experts from various backgrounds to examine and dissect the remarkable prominence of forensic science and medicine in contemporary culture.

Speakers consisted of both scholars and practitioners – from historians and sociologists to pathologists and reconstruction artists – and the topics that came under the microscope included the politics and practice of DNA evidence, the use of cold case review in re-evaluating notorious murder trials from the past, the historical invention of crime scene investigation, the work of forensic identification at mass grave sites and media forensics.

Lingering over many of the papers was the so-called 'CSI effect': the perception that the application of modern-day DNA forensics can solve crimes as speedily – and infallibly – as depicted in the hugely popular *CSI* TV series. A number of the speakers at the Conference examined this phenomenon: Simon Cole (University of California, Irvine) on its effect on jurors and Barbara Prainsack (King's College London) while examining the responses to modern forensic evidence by prisoners in Austria.

The conference had an equal balance between contemporary forensics issues and the historical roots of forensics. Christopher Hamlin (University of Notre Dame) opened by examining the emergence of forensic

authority and medical jurisprudence in the 18th and 19th centuries, while Neil Pemberton and Ian Burney (University of Manchester) positioned the construction of contemporary notions of the 'crime scene' in relation to the police investigation into John Reginald Christie's murders at 10 Rillington Place in the 1950s.

Often the papers that investigated the past were not being delivered by historians: David Foran (Director of Michigan State University's Forensic Biology Laboratory) spoke of his controversial work in questioning the conviction of John Harvey Crippen for the murder of his wife in 1910, following tests he has conducted on slides from the Royal London Hospital Archives used in Crippen's trial. And Gary Edmond (Faculty of Law, University of New South Wales) situated his study of the present-day unreliability of 'facial mapping' with the problems of previous forms of identification such as photography and fingerprinting.

The papers from the range of speakers working on different forms of practical 'forensic culture' illustrated the diversity of professions and skills that fall under this umbrella. Paul Roberts (School of Law, University of Nottingham) spoke on how DNA evidence is used in the adversarial proceedings of courts of law. Caroline Wilkinson (University of Dundee) works on the facial reconstruction of unidentified bodies; her paper considered the ethical and cultural issues this raises. The sensitivities of communities figured large in the paper from William Haglund (International Forensic Program, Physicians for Human Rights); he served as the Senior Forensic Advisor to the International Criminal Tribunal for the Former Yugoslavia and Rwanda, and he illustrated the diplomatic red tape and political

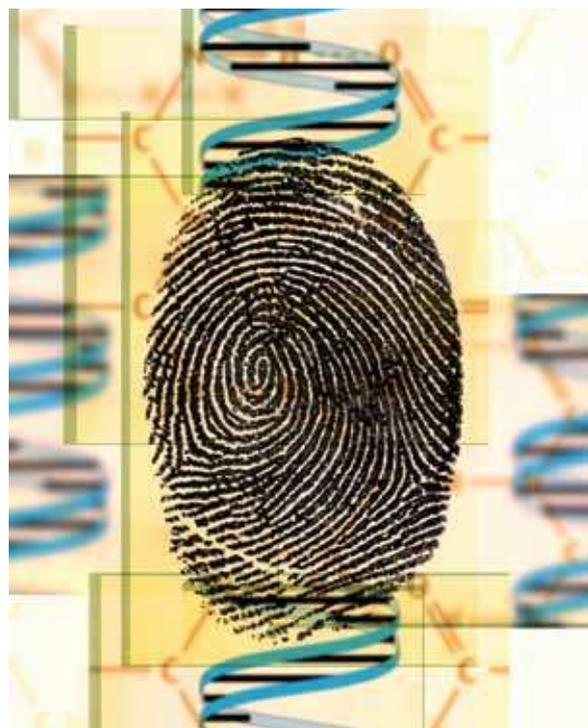
obstructions he has faced when trying to carry out examinations of mass grave sites. It is not every day you hear from someone whose day job is to work with the after-effects of genocide; Haglund's paper showed his patience, sense of duty and responsibility and certainly constituted one of the most powerful talks I've ever heard at an academic conference.

Such scenes described by Haglund are familiar to us from news broadcasts, and television's role in forensics was the subject of a number of talks: Deborah Jermyn (Roehampton University) argued that a groundbreaking TV series in terms of the realistic depiction of forensics was Lynda La Plante's *Prime Suspect*. David Kirby (University of Manchester) cast his net wider, illustrating the range of forensic crime series on our screens, and outlining the different ethos and aims of these shows. Perhaps the most interesting speaker on this theme was an actual TV insider: Barbara Machin – creator of *Silent Witness* and *Waking the Dead* – who gave her perspective on the rise of forensic crime series and suggested what future directions this (sub-)genre might move in.

Interdisciplinary conferences often promise much but sometimes fall short owing to the disparate backgrounds and interests of the attendees. 'Forensic Cultures', however, was a great example of how different disciplines can come together and provoke interesting discussions and debates. The conference also showed the importance of positioning such debates in their historical contexts, and made this attendee consider the Wellcome Library's high-profile collection of forensic casenotes of pathologist Bernard Spilsbury in new ways.

Right:

Advances in forensics have long raised new practical and ethical issues.
Neil Leslie



All attendees were encouraged to contribute to the discussions after each paper and the friendliness and good humour these took place in owes much to the work of the conference organisers. The 'CSI effect' may be a detrimental one, but the effect of 'Forensic Cultures' was altogether far more positive.

Ross MacFarlane is attached to the Wellcome Library (E R.MacFarlane@wellcome.ac.uk).

Madness: between medieval Islamic and contemporary perspectives

DANIEL NICOLAE

Competing ways of understanding madness are not a recent phenomenon but are evident throughout history. One interesting example is the writings of the Jewish physicians who worked at the court of Saladin, the famous Muslim war hero of the Crusades period. How did they understand and treat madness at one of the apogees of medieval science? How did their interpretation compare with those of other people living in the Islamic world? What can poems, the history of hospitals, or medieval discussions of lovesickness tell us about how madness was understood?

To explore these questions, a workshop in March 2010 at St Cross College, Oxford brought together historians, Arabists, psychiatrists, philosophers and neuroscientists.

Never before have scholars of the medieval period discussed and compared their ideas regarding madness with scholars that are either practising psychiatrists or concerned with contemporary issues. To facilitate the dialogue, the workshop centred on historical lectures given by historians, which were then evaluated by respondents from different disciplines, including Muslim psychiatrists, in order to find out whether historical debates have any relevance to present-day debates.

The workshop started with introductory remarks on the history of madness by Emilie Savage-Smith, Professor of the History of Islamic Science at the University of Oxford, and a presentation on the significance of this work for research and practice in current mental health, presented by Bill Fulford, Professor of Psychiatry and Philosophy at the University of Warwick. The workshop took the court of Saladin and its physicians as a starting-point to throw more light on a rather neglected field of the history of medicine, madness and psychiatry. As part of my doctoral

research at Oxford, I explored how Saladin's Jewish physicians understood madness, how they treated it, and how effective their therapies may have been in the light of contemporary research.

This was followed by four historical lectures given by established historians and linguists. First, Carole Hillenbrand (Professor of Islamic History, University of Edinburgh) gave a presentation on Saladin and the historical as well as political setting in which his physicians were active. Second, Hinrich Biesterfeldt (Professor of Islamic Studies, Ruhr-Universität Bochum) delivered a lecture on lovesickness in medieval Islamic medicine, philosophy and theology, and stimulated an interesting discussion about the classification of lovesickness as a disease or mental disorder. Third, Gerard van Gelder (Laudian Professor of Arabic, Oxford) presented in his paper 'Foul Whisperings' a selection of poems written by allegedly mad poets. He discussed not only terminological difficulties surrounding the description of the mad, but also the crucial question of whether the contents of a poem reflect madness or sanity. This was followed by an interesting dialogue that centred on the issue of madness as a creative but also destructive part of being human. Finally, Peregrine Horden (Professor of Medieval History, Royal Holloway, University of London) gave a lecture on medieval hospitals and the

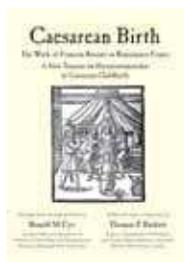
mad. He questioned the extent to which the mad were confined to hospitals and suggested that only a very small percentage of mad people were actually treated in hospitals. The ensuing dialogue between psychiatrists and historians focused on risk management and what role the family and institutions play in the treatment of madness.

The workshop was a full success, as it was the beginning of a fruitful dialogue. Modern psychiatrists, neuroscientists and philosophers contributed to interpretations of historical material and historians of the medieval period were able to deepen the perspectives of modern science. As the workshop and its approach proved to be immensely popular, the organising committee hopes to continue the dialogue between mediaeval Islamic and contemporary perspectives in another philosophy of psychiatry workshop.

The workshop was generously funded by the Wellcome Trust and academically supported by the Philosophy and Humanities Section of the World Psychiatric Association and St Cross College, Oxford. The workshop was recorded and will become available as a podcast on iTunes free of charge. For more details, please contact me.

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Caesarean Birth: The work of François Rousset in Renaissance France



VALERIE WORTH-STYLIANOU

As the earliest advocate of caesarean section on a living woman (in cases where no other means of delivery appeared possible), François Rousset, a 16th-century French physician, defied conventional medical wisdom. His contemporaries expected caesareans to be performed if the mother had died during the labour, in order to allow the fetus a chance of survival, but it was widely assumed that to perform a caesarean on a living woman would be to condemn her to certain death.

Hence Rousset's treatise on the subject, published in French in 1581, and then in Latin translation from 1586, provoked almost universal scepticism, yet also exercised a marked fascination. Despite the fact that as a physician (rather than a surgeon) he had never performed the operation himself, he had witnessed some rare deliveries by caesarean, collected other case histories and reflected on analogous operations, before presenting his research in a persuasive work of some 228 pages. Surprisingly, given the importance of French

obstetric texts in 17th-century England, there was never a full English translation of it (only an 18th-century version by William Cheselden, limited to the section on the comparable operation for the removal of stones). In translating Rousset's *Traité nouveau de l'hysterotomotokie, ou enfantement caesarien* into modern English, Ronald Cyr thus makes it accessible to a far wider group of readers, and his achievement is complemented by a concise but informative introduction by Thomas Baskett.

What made this text worth translating, and what kind of readers is Cyr's and Baskett's edition likely to appeal to? Baskett's commentary makes clear that Rousset did not succeed in revolutionising medical practice; despite his spirited defence of his position, traditional caution held sway for another 300 years. Nor was his work anywhere near as popular in its own time as that of the Italian physician Scipio Mercurio, whose 1596 treatise on obstetrics, containing two chapters in defence of caesarean section (heavily dependent on Rousset), was republished some 40 times over the next 200 years. Nonetheless, Rousset's treatise is an absorbing account of late 16th-century medical and surgical practices, reported by an intelligent author with a very personal commitment to his cause.

As an obstetric surgeon, Cyr is well placed to pass judgement on Rousset's methods, and medical historians (who have sometimes asked whether the caesareans reported did indeed occur) will note his assertion that Rousset's accounts definitely suggest the operation was performed. Equally, historians of medicine will be interested to learn that, apart from not recommending uterine sutures, Rousset's technique is essentially the same as that which emerged in the 19th and 20th centuries. On points of detail, especially in the case histories Rousset recounts, Baskett and Cyr use footnotes to propose some modern clinical interpretations (e.g. distinguishing uterine inversion from uterine prolapse). This has the advantage of bringing Rousset's practice closer to the modern reader's experience, although occasionally (e.g. in discussion of superfetation) it would have been helpful to provide some additional detail on 16th-century understandings of the issue. As far as Rousset's mentions of medicine and herbs are concerned, on the other hand, Baskett's and Cyr's generous notes provide very useful historical background.

How accessible is the volume to readers with little or no expertise in medical history? The tenor of the introduction and annotations to the text suggest that Cyr and Baskett assume that their work will be read above all by modern medical practitioners (and perhaps also lay readers) curious about women's healthcare in earlier periods, rather than by specialist historians. Given that caesareans now account for a quarter or a third of deliveries in some countries, they believe the relevance of the subject needs no apology. The introduction neatly meets the needs of the reader with

limited knowledge of Renaissance France, sketching Rousset's career, the medical context in which his work arose, and the reasons for the controversy it provoked. The first appendix at the end of the volume is less obviously relevant, but to provide a 'Summary of 16th-century French history' in just over a page is a near-impossible task! The other two appendices, on Rousset's illustrious protector, Renée de France, and on his patron, the Duke of Nemours, are meticulously researched, as are the historical footnotes accompanying the text itself. It is a pity, however, that the volume does not include a bibliography of either the primary or secondary works cited in the introduction and notes.

Cyr unashamedly admits his lack of expertise in either translation studies or in 16th-century as opposed to modern French, yet his understanding of Rousset is excellent, and his translation both extremely accurate and very stylish. (The latter is no mean achievement, given the often tortuous syntax of Renaissance French prose.) The RCOG Press has produced an attractive volume, and the illustrations in the introduction (from other Renaissance authors, since Rousset's volume was not illustrated) are particularly clearly reproduced. For the relatively modest price, this volume can be warmly recommended to individuals and to libraries.

Cyr RM (transl.), Baskett TF (ed.). *Caesarian Birth: The Work of François Rousset in Renaissance France. A New Treatise on Hysterotomotokie or Caesarian Childbirth*. London: RCOG Press; 2010.

Valerie Worth-Stylianou is Senior Tutor at Trinity College, Oxford.

New publication



Social Determinants of Health: Assessing policy, theory and practice edited by Sanjoy Bhattacharya, Sharon Messenger and Caroline Overy

The WHO's Commission on Social Determinants of Health released its Final Report in 2008. This is a landmark document that hopes to kick-start a major global movement for health equity – a laudable goal, considering that serious health inequities continue to afflict most nations, including those with the most developed economies. However, many challenges await the Report's advocates, both within global and national contexts. Political and economic difficulties will need to be surmounted, allies in government and civil society mobilised and these alliances maintained, and a plethora of social conditions will require careful study and negotiation before policies are drawn up and implemented.

Social Determinants of Health brings together a selection of proceedings drawn from a major conference held in London in 2008 – this was the first independent,

interdisciplinary gathering to critically assess the Report, and the results were impressive. Apart from providing searching analyses of different sections of the document, the presentations also provided the basis for a fruitful engagement between academics and those involved in policy design and implementation. The papers presented in this volume provide us with numerous insights into the genesis, management and reception of global health projects, as they unfolded in international, national and local contexts. These analyses will be of interest to teachers, students, NGOs, national governments, global and international funding agencies, and others involved in health initiatives and advocacy.

Published in: *New Perspectives in South Asian History*. ISBN 978 81 250 3982 2

Sanjoy Bhattacharya is Reader in the History of Medicine at the University of York. Sharon Messenger and Caroline Overy are Senior Research Assistants at the Wellcome Trust Centre for the History of Medicine at UCL.

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The Global Eradication of Smallpox, edited by Sanjoy Bhattacharya and Sharon Messenger

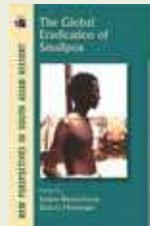
The Global Eradication of Smallpox is the product of two series of lectures presented at the Wellcome Trust Centre for the History of Medicine at UCL, London, in 2007 and 2008. The book contextualises the global programme and the many factors contributing to the certification of smallpox eradication worldwide in 1980.

The volume contains first-hand stories of the 'warriors' involved in eradicating smallpox (a goal considered by many to be impossible), the difficulties faced by them and the strategies adopted to overcome these. These contributions will, therefore, be of interest to teachers and students of public health, as well as those involved in designing and managing current and future disease elimination and eradication programmes. All the articles in the volume also highlight the importance of recognising

the human factor in all major global health programmes: campaign managers and the members of target populations interacting in a complexity of ways. This volume delves into this important element of the global smallpox eradication programmes, while recognising that they cannot be easily quantified or made the subject of overarching generalisations.

The book is accompanied by a CD containing recordings of highlights of the lectures; this will be an important research and training resource, which will be useful to historians, public health specialists and medical professionals.

ISBN 978 81 250 3981 5



The Smallpox Eradication Saga by Isao Arita, edited by Alan Schnur and Masanobu Sugimoto, with a foreword by David Heymann

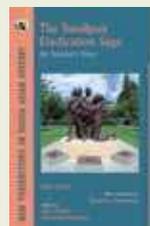
The global eradication of smallpox is a public health achievement of the 20th century. Isao Arita relates the story behind this successful effort from an insider's view. This book provides insights from the perspective of an active participant in many of the crucial events of the programme in Geneva, West Africa, Indonesia, India, Bangladesh, Ethiopia and Somalia. The author describes the selfless and tireless work of people from different cultures, races, nationalities and religions, who worked together to achieve a common goal that many thought was impossible.

The book covers not only the scientific innovations and management strategies that made eradication possible but also the actual work, including breaking of rules when necessary to get the job done. Arita also

discusses remaining issues in the post-eradication era, such as treatment of the remaining smallpox virus stocks, preparedness for bioterrorism and research to sustain a smallpox-free world.

This book is an important addition to the smallpox eradication literature and will be a valuable reference for anyone interested in studying the characteristics of a successful public health (or indeed any other) programme, and how a programme can translate theory and plans into successful field operations and outcomes.

ISBN 978 81 250 4095 8



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