The global eradication of smallpox is arguably the greatest public health achievement of the twentieth century. Historical research into the developments that made this feat possible is important both from an academic point of view as well as a policy perspective. Indeed, as the international polio eradication initiative continues to suffer from serious structural difficulties and social opposition, and as nervous discussions about how best to cope with the possible outbreak and spread of a human variant of bird flu continue, it is clear that the lessons provided by smallpox eradication can provide important pointers to international health agencies, national and local governments, and organisations representing civilian interests. The smallpox story warns us, for example, that public health policies cannot simply be imposed from the top and that the use of force is generally counter-productive in the long term. Instead, this case study highlights the usefulness of mobilising broad-based local bureaucratic, political and civilian support for public health programmes; indeed, we are reminded that the adaptation of health activity and messages to local cultural mores and concerns is crucial for successful policy implementation, even though such an approach imposes severe financial and infrastructural strains on governments and health agencies.

The East Pakistan/Bangladesh Smallpox Project

A project grant awarded by the Medical Humanities section of the
Wellcome Trust, UK, to Dr. Sanjoy Bhattacharya in July 2005 allowed the launch of a study titled ‘Diverse Conflicts, Multifaceted Victories: The Control and Eradication of Smallpox in East Pakistan/Bangladesh, 1947-1977’ on the 1st of October 2005. Based at the Wellcome Trust Centre for the History of Medicine at UCL, this generously-funded project is allowing detailed research to be carried out into a wide range of historical sources available in South, South-East and East Asia, Europe, North and South America, and Australia. The project team is hoping to access published and unpublished reports prepared by government and non-governmental health agencies, as well as the private papers of individuals; Dr. Bhattacharya continues to carry out interviews with government officials (civilian and military) and volunteers (local and international) associated to the East Pakistani/Bangladeshi smallpox control and eradication programmes in the 1950s, 1960s and 1970s.

The project goals

Bangladesh – the Pakistani province of East Pakistan that became an independent nation in 1971 – had consistently contributed a high percentage of the world’s variola cases and was the site of the last recorded cases of smallpox in Asia in October 1975. It was thus accorded an important place in the global smallpox eradication programme, which was managed by the World Health Organization [WHO], and involved numerous national governments (of the USA, Sweden, Denmark, Singapore, Burma and India, in addition to the Pakistani and Bangladeshi authorities) and several non-governmental organizations (the Red Cross, OXFAM and various
missionary societies contributed money and personnel). Yet, Bangladesh’s substantial contribution to the successful achievement of worldwide smallpox eradication, in the face of persistent and serious infrastructural and political difficulties, is largely ignored. The Bangladeshi smallpox eradication programme was manifestly different from that of its gigantic neighbour, India. It was unique in terms of the national and international political negotiations underpinning the campaign, vaccine usage patterns and immunisation procedures, and, not least, funding and personnel deployment trends. Bangladesh cannot, therefore, be treated merely as a smaller version of India just because the two countries happen to be adjacent to each other in the South Asian sub-continent. They had significant political, demographic, economic and socio-religious differences, all of which informed the way in which their respective smallpox control and eradication programmes were conceptualised, deployed and maintained. This Wellcome Trust-funded project intends to produce a nuanced and comprehensive assessment of the vital East Pakistani/Bangladeshi chapter in a remarkable story about the worldwide elimination of a damaging viral infection; an effort is also being made to study the contours and impact of regional political and economic trends, as well as the attendant trans-national discussions about the funding and form of anti-epidemic measures. Through the use of local sources and a careful analysis of the role of agents tasked with translating government directives into locally acceptable policies, we can examine what actually happened rather than what central authorities hoped would happen (or, indeed, what governmental rhetoric later claimed had happened). Central to policy implementation was a large body of subordinate WHO and government workers who were important participants in the eradication process; they represented a variety of interests and intricate negotiations took place at each level of the chain of authority. This project seeks to examine such complexities by carrying out in-depth investigations into the following questions:
What was the epidemiological profile of smallpox in colonial East Bengal, and what sanitary and public health strategies were deployed in the region in the late 19th and early 20th centuries to cope with the uncontrolled spread of the disease?

What was the epidemiological profile of smallpox in relation to that of other infectious diseases in East Pakistan/Bangladesh between 1947 and 1957? What were the official attitudes towards the disease, and what was the condition of the regional public health departments and their vaccination departments during this decade?

How was a smallpox eradication programme requested by the WHO developed and run in the 1960s, in the face of mounting political, social and economic problems?

How did the intensification of the eradication programme respond to the dislocation caused by the catastrophic cyclone of 1970, the civil war involving the West Pakistani armed forces and formation of Bangladesh in 1971, and the damaging floods that hit the country soon after and the resultant food shortages?

In what ways was the WHO able to play an important managerial role in the region between 1971 and 1980, especially in relation to the problematic frontier regions bordering India and Burma?

How did the WHO mobilise the assistance of NGOs during the 'intensified smallpox eradication programme' launched in the first half of the 1970s? How did staff training occur, and how were multi-national personnel vaccination teams developed and deployed? What strategies allowed the WHO and the Bangladeshi government to mobilise the required levels of financial aid and vaccine stocks?

How did the smallpox eradication programme compete, for funds, personnel and political support, with other high profile public health initiatives, such as malaria control and primary healthcare? Did the growth of smallpox control measures impact adversely on the growth of other important systems of health delivery such as rural dispensary
· How did the WHO field workers and the East Pakistani/Bangladeshi authorities readapt policies proposed from Geneva? How did they respond to episodes of official and civilian resistance? To what extent were the military medical services used to carry out compulsory screening and vaccination drives?
· How far did indigenous religious-cultural understandings of smallpox affect the running of the eradication programme? Was Sitala, the female deity associated with smallpox, who was worshipped by different castes and communities across Eastern India, a factor in this predominantly Muslim region?
· To what extent were the talismanic/spiritual cures provided by Muslim ‘faith healers’, Sufi ‘shrine keepers’ and tribal shamans able to disrupt and displace vaccination regimes? Were these individuals co-opted into the campaign and if so, why did they collaborate with the eradication campaign?
· What investigative procedures allowed the Bangladeshi government to announce the elimination of smallpox from within the national boundaries? Did the WHO-appointed ‘certification committee’ accept the supporting data at face value, or were independent sets of searches carried out? What benchmarks were ultimately used to certify Bangladeshi smallpox eradication?
· What are the wider policy implications of multi-national intervention in a multi-ethnic state? What lessons can be learned for future public health campaigns from the Bangladesh experience?

Project outcomes

The products of all these researches will be used to prepare a major monograph and at least two articles for publication in peer reviewed journals. The project also has a major public engagement focus, which will be carried out through several devices. A website, titled ‘Smallpox
History’, has already been set up
(http://www.smallpoxhistory.ucl.ac.uk/) and this will be expanded
over the coming months.

Additional support from the Wellcome Trust Centre for the History of
Medicine at UCL allowed Sanjoy Bhattacharya to organize two series of
public lectures involving some of the most important figures in global
smallpox eradication. Project monies were used to make recordings of
these speeches, and these are being used to prepare podcasts that will
be made available to the general public through the Centre’s website
(copies of the complete recordings are being donated to the Wellcome
Library’s audio collections for open access). These podcasts will also be
used to produce a CD, which will be distributed with an edited book
based upon articles contributed by the speakers. Published by Orient
BlackSwan, this book and CD set will be released in August 2010 at a
conference at Rio De Janeiro, Brazil, which is going to commemorate 30
years of the certification of smallpox eradication (the Wellcome Trust
Centre is a co-organiser of this major international meeting, which will
have a significant history of medicine component).
Smallpox control in India

In 1857, the General Board of Health attached to the British Government compiled a set of papers relating to the 'history and practice of vaccination', for presentation to both houses of parliament. The report highlighted the dangerous nature of smallpox and declared that:

To the civilised classes of society, it has now almost ceased to be a fatal disease; and among them, accordingly, there is a temptation to forget how their fathers and grandfathers regarded it. Hence, in the middle of the 19th century, the very success of vaccination may have blinded people to its importance.... Yet indeed, apart from historical records, our present daily experience of the nature of the disease might almost enable us to construct a description of the course which it has run [sic]. To know of it, that it is fatal to a very large proportion of those whom it attacks; that it is eminently infectious from person to person; and that it seizes, with very few exceptions, on all who for the first time come within its range [Emphasis in original]....

As things stood in the mid-nineteenth century, these assertions were only partially relevant to British India. While colonial officials generally agreed that smallpox was extremely destructive, their efforts at introducing effective variolation (inoculation with live smallpox virus, which was also referred to as variola) and vaccination (inoculation with the vaccinia virus) programmes remained half-baked due to a combination of technical, economic, political and cultural reasons. As a result, T. Edmondston Charles, the Government of India's Superintendent General of Vaccination, noted that smallpox remained widespread and dangerous, pointing out in 1870 that:

Small-pox is one of the most violent and severe diseases to which the human race is liable. The mortality caused by it is so great that out of three or four individuals seized, one is sure to die; that is, unless the disease occurs in persons who have already had an attack of small-pox, or who have been protected by inoculation or by vaccination, among whom the number of deaths is not nearly so great. Not only is small-pox in itself a very formidable disease, on account of the large number it destroys, but it is doubly formidable because it is so very common. It does not come rarely; on the contrary, a year never passes without a great many outbreaks of small-pox being reported to the Government.

Charles was not alone in making these observations. Other officials, like Robert Pringle, who had significant touring responsibilities and experience of working in several British Indian provinces and sub-continental princely states, pointed to the high incidence of smallpox in the plains of northern India whilst also mentioning regional variations.

Smallpox epidemics were, thus, customarily treated as major events in South Asia, receiving the attention of the ruling elites, government agencies, medical practitioners, civilian commentators and ordinary people. The disease evoked widespread fear and it is important not to ignore this fact. British officials in colonial India were aware that smallpox could transcend racial and geographical barriers, even if they were often unsure about why this was so. This left a deep imprint on the design of official
policies of smallpox control. Indeed, it was not uncommon for a mere handful of cases of variola to foster nervousness within official and civilian circles. As a result, 'epidemic emergencies' were promptly announced, almost as soon as a few specific cases were confirmed, confirming the well-established fact that epidemics are often political rather than biological events. That said, epidemics could involve scores, hundreds or thousands of cases – the highly contagious nature of smallpox and its gruesome possibilities made number crunching relatively unimportant. A few cases were considered to represent a prelude to the unravelling of a crisis that would inevitably result in further infections and innumerable deaths. In fact, while large-scale mortality was usually considered to be an affirmation of the dangers expected of variola, a less dramatic toll on human life was generally celebrated as an instance of good fortune.

In such situations, the fact that there was agreement on the need to limit the spread of smallpox is unsurprising. There is little evidence to support the suggestion that acute cases of variola were celebrated by Indians as a benefaction – while it is conceivable that a mild case of the disease may have been considered by at least some as being a divine gift, a serious case of smallpox is more likely to have been seen by those of a religious predisposition as evidence of godly retribution. However, there was less agreement on the best means of controlling the disease, which stoked tensions within government, the medical profession and the wider society. In fact, different approaches to prevention and control were proposed and adopted by the many agencies and individuals involved, including differing types of protective vaccination, disinfection, isolation and treatment.

While some colonial officials saw the successful control of smallpox, or a reduction in mortality from the disease, as an effective way of representing the scientific abilities and beneficence of the British Raj, it would be foolhardy to downplay the acute sense of self-preservation that entered such strategic equations. Officials, whether European or Indian, were keen to protect themselves, their families, and the communities within which they lived from this damaging disease. And yet, this sense of self-preservation sometimes also had the paradoxical effect of limiting certain smallpox control schemes. Bureaucrats were also anxious to ensure that they did not spark off life-threatening local rebellions by the enforcement of unpopular policies, concerns that were often accentuated by the frequent shortages of the police and the judiciary, money, operating kits, staff, and, not least, working and safe vaccines – in many places in British India, and at several junctures between 1800 and 1947, several of these inputs were unavailable or in limited supply (all these issues have been examined in great detail by Sanjoy Bhattacharya, Mark Harrison and Michael Worboys in a book titled Fractured States: Smallpox, Public Health and Vaccination Policy in British India, 1800–1947, which was published in 2005 by Orient Longman India and Sangam Books UK).

These infrastructural conditions only changed gradually after the achievement of Indian independence in 1947, as the political, economic and social problems that underpinned them survived the passing of colonial rule. The eradication of a great variety of institutions, which, in turn, deployed a range of immunisation and isolation strategies. Some of these initiatives were initially developed during the colonial period, but retained, extended and reformulated after 1947. The scope of such work was often increased through the development of special public health and medical initiatives, introduced after Indian independence, often – but not always – at the behest and with the assistance of the World Health Organisation [WHO]. Although the priorities of the international health and development agencies active in the South Asian sub-continent sometimes represented the concerns of the industrially developed world, they, like the Indian government – without whose co-operation the new immunisation projects could not be implemented – were not monolithic bodies. In fact, their distinct components responded to policy directives prepared by the respective headquarters in varied ways, sometimes even pulling in different directions, as officials based at various levels of administration squabbled about the usefulness and costs of operational strategies. Viewed from this perspective, official smallpox control and eradication ventures in India seem more like disjointed projects, composed of mutually independent initiatives, some of which came to an inglorious end. And yet, it is impossible to question the cumulative value and ultimate significance of such a multifaceted, and sometimes disorganised, programme; notably, the success of some of their elements were widely attributed to unexpected and generous doses of good fortune. The Indian national smallpox eradication programme (NSP) and its intensified version (INSPIRE) were established, run and expanded in the face of all manner of challenges: medical, financial, logistical, social, political and geographical. In the end, all these initiatives were well worth the effort, as the...
Whereas it would be inane to deny the staggering levels of individual effort and teamwork that fed the drawn out campaign against variola, it is important, at the same time, to examine the very complicated nature of the Indian smallpox eradication programme. The story is not one of unbridled official cooperation; the situation was, as the unpublished correspondence of individuals deeply involved in the day-to-day running of the INSEP illustrates, consistently much more difficult. A variety of tensions, at different levels of WHO and Indian administration, had to be contended with on a regular basis. INSEP/INSEP officials, whatever their institutional affiliation (some were attached to the WHO HQ and WHO SEARO, some to a variety of international organisations, others were central and state government employees, and some were connected to Indian non-government organisations), were never able to work in a vacuum, free from local political influences, and economic and social pressures. They were, in fact, continually forced to re-adapt their strategies in line with a variety of locally specific challenges; it did not help matters that many district-level health officials were hostile to any effort to integrate their departmental activities with NSEP/INSEP-related work, often as the extra responsibilities limited profitable opportunities for private practice. Therefore, it was starkly obvious, by the late 1960s and the early 1970s, to everyone associated with the programme, especially those charged with running the WHO's smallpox eradication units in Geneva and New Delhi, that prolonged federal and state government inaction would be recognized as the situation. To this end, government co-operation directed diplomatic initiatives at national- and state-level bureaucrats and politicians, as well as politically influential individuals like J.R.D. Tata. Strikingly, requests for help, often forwarded without official sanction, were extremely polite in tone, so as not to annoy Indian administrators who were keen to be in control of all negotiations with international aid organisations. Indian governmental and non-governmental assistance, whenever it was available, was important as it allowed the development of short-term strategies of local reform, where dramatic infusions of resources were introduced into specific districts for a specific period of time, during which precedence was given to searching for potential smallpox sufferers, isolating them and vaccinating all potential contacts. Once this was done, an urban or rural site was declared free of variola, and the mobile INSEP teams were then moved on to another area, where the same regime was carried out all over again. Repeat searches were rarely carried out in the same area unless, of course, there was one or more confirmed cases of smallpox; routine searches were left to epidemiologists in the employ of state health ministries, who were asked to liaise and work with local administrators.

In addition, a variety of strategies were employed to deal with difficulties created by the existence of pockets of civilian hostility. Some INSEP managers tended to be open to involving members from local communities in their teams, so that they could help initiate negotiations with communal representatives; other personnel took recourse to the use of force, with central- and state-government backing, especially when they were able to convince everyone involved that no quick or easy solutions were available. Administrative flexibility remained central to the success of local search, containment and vaccination campaigns; indeed, an assessment of field reports strongly suggests that problems were generally due to some grant not being accurately resolved, as a range of impromptu initiatives employed by INSEP teams bore fruit. The usefulness of such flexibility was gradually recognized in New Delhi and Geneva, after several efforts at standardising field activity failed; in fact, as time wore on, senior government and WHO officials became more accepting of the field workers' proclivity to adapt the sweeping operational instructions prepared jointly by the federal health ministry and the WHO HQ.

Not unexpectedly, shifts in the organising strategies of the NSEP/INSEP had a deep-seated impact on the WHO as well, since its different regional offices and departments frequently disagreed about how best to run the associated campaigns. A series of irreconcilable differences within the WHO SEARO forced the restructuring of administrative structures within the regional office. These initiatives, which took the form of giving operational independence to its smallpox eradication unit, were intended to allow Donald Henderson and his team in Geneva to circumvent unhelpful organisational representatives based in New Delhi. A nuanced assessment of all these complexities, which have been largely glossed over in the few available works dealing with international health programmes in South Asia, does not detract from the story of Indian smallpox eradication – instead, it makes it all the more remarkable, as it allows us to better appreciate the terrific effort of all ranks and nationalities, had to struggle against. A book by Sanjoy Bhattacharya, titled *Expunging Variola: The Control and Eradication of Smallpox in India, 1947-1977* (published by Orient Longman India Ltd and
Sangam Books UK in June 2006), has examined the origins, character and the effects of the difficulties faced by various government and non-governmental agencies in tackling the spread of smallpox in India between 1947 and 1975; it is an acknowledgement of the very great importance, both local and global, of the continued disappearance of this devastating and dreaded disease over the course of almost two decades.

One of the technical breakthroughs in the final phase of the India smallpox eradication programme was the widespread introduction of the bifurcated needle for vaccination work. Immunisation with this needle was relatively less painful, as it allowed operations based on the puncturing of skin (rather than the introduction of cuts into the flesh). The Indian and WHO authorities were extremely keen to advertise the usefulness of the bifurcated needle, both to officials and civilians, and this was done through handbooks like the one pictured here. Image courtesy of Dr. Damodar Bhonsule, Panjim, Goa, India.

The search forvariola cases was intensified after the achievement of the ‘smallpox zero status’ in 1975. As every reported case of rash and fever was chased down and investigated, numerous
false alarms presented themselves. While some of these cases were the result of dubious information provided by pranksters seeking to win monetary rewards, others turned out to be acute cases of chickenpox, which were notoriously difficult to visually differentiate from variola; a point proven by the photographs of Hanif Ali, which were taken by Dr. Damodar Bhonsule in Assam in 1975. Images courtesy of Dr. Damodar Bhonsule, Panjim, Goa, India.

Acute Chickenpox. Images courtesy of Dr. Damodar Bhonsule, Panjim, Goa, India.
Global Smallpox Histories

This smallpox history website will be expanded over the coming months – we intend to carry out major updates twice a year and, therefore, new entries can be put up pretty quickly. We welcome short articles (750-1500 words) on work dealing with other national, regional and inter-national contexts, which will be posted on web pages dedicated to different continents. Contributors are welcome to send in images, along with the appropriate copyright clearance for their use (we are unable to subsidise the costs of the use of such images). Contributors should also feel free to provide lists of their most important work, including web links to online articles, as we hope to develop this website as a useful research resource for historians. The Wellcome Trust Centre retains the right to reject contributions, if the content is deemed to be inappropriate; the website managers will also retain the right to edit contributions (all editing will be done in consultation with the contributors).

Mr. John Wickett, of the World Health Organization, with the last person to have contracted – and survived – naturally occurring smallpox in Somalia (1977), courtesy Mr. John Wickett.

Potential contributors are encouraged to write to Dr. Sanjoy Bhattacharya at smallpoxhistory@ucl.ac.uk with the write up, and affiliation and contact details – we look forward to having you as part of this interesting website project!

This page last modified 18 July, 2006 by [Stormtree Internet Services]
The Wellcome Trust-funded project on the history of the control and eradication of smallpox in India has been very productive, in that it has resulted in a variety of publications.

**Articles**

A wide range of articles were produced from this project. For instance, Dr. Sanjoy Bhattacharya was invited to write-up an article for the *Wellcome Trust Review* in the early part of 1998, which resulted in a piece titled ‘A very peculiar triumph: The control and eradication of smallpox in India’. Authored by Sanjoy Bhattacharya, Mark Harrison and Michael Worboys, the article appeared in 1998. setting out the goals and the early findings of the project. This article can be accessed via http://www.wellcome.ac.uk/node7840.html and http://www.shu.ac.uk/schools/cs/cri/smallpox/index.html as well as a PDF version that you can download from here.

Dr. Bhattacharya also found it useful to advertise some of these research findings through established and well-distributed publications like the *International Institute of Asian Studies Newsletter*. An article titled ‘“One of the most brilliant achievements in the annals of the global eradication programme”: Smallpox in India, 1900-1977’ was published in issue 16 of this newsletter (this appeared in 1998), and this proved to be very useful as it encouraged several people with an active interest in the history of infectious disease control in Asia to contact the project team (this article can be accessed at http://www.iias.nl/iiasn/16/regions/sa1.html).

In addition, Dr. Bhattacharya was encouraged to write-up a couple of pieces for Wellcome History, after the newsletter’s editor at the time, Dr. Waltraud Ernst, contacted Prof. Worboys for information on the project. The result was the preparation of two articles, which have been archived and can be accessed through the Wellcome Trust’s website. The first article is titled ‘A Researcher’s Progress: A trial by Indian archives, strikes and fog, and was published in Issue 10 of Wellcome History, which was brought out in April 1999 (http://www.wellcome.ac.uk/doc_WTD003130.html); the second is titled ‘Unlocking Hidden Treasures: A review of some archives and reading rooms in Western India’ and was published in Issue 12, which appeared in November 1999 (http://www.wellcome.ac.uk/doc_WTD003132.html).

The preparation of several longer articles followed, which was useful as this allowed Dr. Bhattacharya to think carefully about his research materials and also gradually develop his arguments. The first of these pieces was titled ‘Re-devising Jennerian vaccines?: European technologies, Indian innovation and the control of smallpox in South Asia, 1850-1950’, and appears in Biswamoy Pati and Mark Harrison (eds.), *Health, Medicine and Empire: Perspectives on Colonial India* (Orient Longman & Sangam Books: New Delhi and London, 2001), pp. 217-269. This was followed by ‘Mysteries of the smallpox vaccine’, which appeared in the *Journal of Biosciences*, Vol. 28, No. 2, March 2003, pp. 141-144 (this article can be accessed through http://www.ias.ac.in/jbiosci/mar2003/contents.htm), and ‘From foe to friend: Geographical and environmental factors and the control and eradication of smallpox in India’, which was published in the *History and Philosophy of the Life Sciences*, October 2003, pp. 300-317. The most recent published article is ‘Uncertain advances: A review of the final phases of the smallpox eradication programme in India, 1960-1980’, which can be read in the *American Journal of Public Health*, November 2004, Vol. 94, No. 11, pp. 1875-1883 (an early version of this article can be downloaded from the website of the Global Health Trust, a Rockefeller Foundation-funded initiative, via http://www.globalhealthtrust.org/Publication.htm).

A few other articles have also been prepared by Dr. Bhattacharya from research carried out during this project and their publication is awaited.
Books

**Expunging Variola: The Control and Eradication of Smallpox in India, 1947–1977**

**Series:** New Perspectives in South Asian History  
**Author:** Sanjoy Bhattacharya  
Published by Orient Longman India Ltd and Sangam Books UK, 2006  
(ISBN 81-250-3018-2 OL, 0-86311-870-4 SBUK)

As a crucial component of the global smallpox eradication programme, which has been widely hailed as one of the greatest public health successes in the twentieth century, the Indian experience has some important stories to tell. **Expunging Variola** reveals these as it chronicles the last three decades of the anti-smallpox campaigns in India.

This wide-ranging study, based on extensive archival research in India, Britain, Switzerland and the United States of America, assesses the many complexities in the formulation and implementation of the smallpox eradication programme in the subcontinent. Rather than merely cataloguing the developments of this extremely complex exercise within the World Health Organisation headquarters in Geneva and the Indian central government in New Delhi, this book adopts a much broader perspective: it makes a conscious effort to provide a detailed view by including the accounts of WHO, governmental and nongovernmental personnel on the ground. In this manner, nuanced descriptions of important – and often controversial – situations are provided. Thus, apart from acknowledging the influence of national-, state- and district-level political, economic and social structures in continually reshaping the contours of the smallpox campaigns, this work also emphasises the crucial role played by field workers in implementing and often reinterpreting health strategies proposed by Geneva and New Delhi.

Original not only in perspective but in material, based as it is on a wide range of sources which have never been exploited by academics before, **Expunging Variola** breaks new ground in the historiography of smallpox eradication in the subcontinent.

**Fractured States: Smallpox, Public Health and Vaccination Policy in British India, 1800–1947**

**Series:** New Perspectives in South Asian History  
**Authors:** Sanjoy Bhattacharya, Mark Harrison and Michael Worboys  
Published by Orient Longman India Ltd and Sangam Books UK, 2005  
(ISBN 0 86311 838 2)

**Fractured States** is an extraordinarily detailed account of efforts at smallpox control measures in colonial India. Departing from established analytical stereotypes, it seeks to focus on bureaucratic roles and functions in an attempt understand why smallpox control policies and programmes were not as successful as they should have been. This work gives as much weight to the political, economic and scientific factors affecting the extension of vaccination as to the cultural and religious responses of this medical intervention. The complexities of conflicting medical technologies, bureaucratic disharmonies and widely varying civilian responses have been vividly captured in this comprehensive monograph.

By stressing on an empirical rather than ideological approach, the authors posit a new perspective on the attempts of a deeply divided colonial administration and scientific establishment to control a highly infectious disease. Making extensive use of the enormous documentation generated by the raj, this book also conveys the immediacy of the issues of smallpox control that so dominated public health policy in colonial India. Lucidly written, cogently argued and highly readable, this book has much to offer to both a specialised and general readership.

---

**Sales information for both books**

**For UK and Europe:**

[Smallpox History - India Publications](http://www.smallpoxhistory.ucl.ac.uk/India/IndPublication.html)
Mr Anthony de Souza, at: sangambooksuk@gmail.com

For rest of the world:

Orient Longman Private Limited, 3-6-752 Himayatnagar, Hyderabad 500 029, A.P. India. E-mail: info@orientlongman.com
Website: www.orientlongman.com

Dr. Sanjoy Bhattacharya welcomes people who have information about any of the above issues to contact him.

This page last modified 24 July, 2006 by [Stormtree Internet Services]