

Needham Research Institute Newsletter

李約瑟研究所通訊

New Series, No. 3

8 Sylvester Road
Cambridge CB3 9AF
UK

October 2006

Tel: 01223-311545
Fax: 01223-362703
www.nri.org.uk



SIMON WINCHESTER IN CHINA

Simon Winchester is writing a book on Joseph Needham and China. He has (despite the way this article ends) now safely returned from a research trip to China. His other books include The Meaning of Everything on the creation of the Oxford English Dictionary, and The Map that Changed the World about the man who struggled to create the first geological map of Britain. See www.simonwinchester.com.



Night was falling, I was sitting in the back of my ruined car on the very edge of the Gobi desert, hopelessly stranded and fast getting cold, when I suddenly realised the absurdity of the situation: I had come here to follow in Joseph Needham's footsteps, and at this precise moment the journey was becoming, by virtue of the very disaster through which we were suffering, an almost uncannily exact parallel to what the great man had himself gone through, more than half a century before.

It had been the mid-1940s when Needham made his four great trans-China journeys, during which he was first seized with the notion of writing his vast history of Chinese science. At the

Also in this issue:

Icebreakers lecture in honour of Joseph Needham	Page 2
Obituary: Kenneth Robinson	Page 2
Modern science explains 8 th century Chinese remedy	Page 3
Festschrift for Professor Ho	Page 3
Text reading seminars	Page 3
Library news	Page 4

time he was based at the British Embassy in Chongqing, which was the wartime capital; and from there he and small teams of men as redoubtable and determined as he ventured out in search of the unknown China. He went westwards through the jungles to the Burmese border at Ruili, where the Ledo Road to India began; he ventured up north-eastward into Shaanxi, to the Tang capital of Xi'an; he dodged the invading Japanese armies by making a breathtakingly foolhardy southeastern journey to Fuzhou; and in August 1943 he set out northward in a three-ton truck, bound for the desert city of Dunhuang, with its endless sand-dunes and the magnificent Buddhist caves in the grottoes of Mogao.

Everywhere, however, the vehicles that conveyed the expeditions broke down – and most of all they did so on the journey up the Silk Road to Dunhuang. A journey that, even in those difficult days, should have taken no more than a month, in fact took six. The dilemmas were manifold, in more ways than one: the truck's engine exploded, its springs broke, pistons hurled themselves gaily through cylinder blocks, axles fractured in tandem, tyres shredded and, on those few occasions that the mechanicals were all functioning as they should, the drivers veered off into swamps and streams or hit other trucks, and yet more time was lost and energies sapped and tempers pushed to breaking-point.

Even with its cryptic initials, one can hear poor Needham's frustration, as in his diary entry for 27th October, 1943. "Packed up first thing, hoping [to] start. Then [it became] a nightmare day. KW and the mechanics couldn't start the engine. [They] pushed and pushed, and the fifteen soldiers pushed [RA to soldiers time pushing 120 (?)]. Eventually, at dusk, KW got it going." It went, but only for an hour. Then the spark plugs turned to soot, and everything stopped in the desert, and someone had to be sent for a posse of donkeys.

(Continues Page 4, Column 1)

ICEBREAKER LECTURE IN HONOUR OF JOSEPH NEEDHAM



Lord Browne

The Icebreaker Lecture for 2006, in honour of the work of Joseph Needham, was given by Lord Browne, CEO of BP plc, at the Judge Institute, Cambridge on 23rd February 2006, in the presence of the Vice-Chancellor and a large and distinguished audience from the University as well as from Cambridge business. The idea for this series of lectures came from Stephen Perry, Chairman of the 48 Group Club. The 48 Group (the original 'Icebreakers') were a group of British businessmen who 'broke

the ice' by establishing business relations with the new government in China in 1953 – an initiative materially helped by Joseph Needham himself. The 48 Group Club continues to play an important role in helping British firms do business in China, and their work has been publicly commended by both President Hu Jintao and Premier Wen Jiabao during visits to the UK.

Lord Browne is the head of a firm that has taken bold and successful initiatives in developing long-term economic relations with China, and is a Trustee of the Needham Research Institute. The title of his talk was 'China and the world economy – prospects and challenges'. In his opening tribute to Joseph Needham, Lord Browne observed

"This is an event much associated with the achievements and legacy of Joseph Needham, who was one of the finest scholars in this University in the 20th century. The range and depth of his study of science and civilisation in China is phenomenal. And the fact that his work continues to be published and to be developed through the Needham Research Institute is a tribute to his achievement, and to the people who have carried on his work. I think it is fair to say that Joseph Needham wasn't just interested in the details of Chinese science at a technical level. He also studied and wrote about the role of science in society, and the degree to which science operated not as an external factor, but as an integral part of the response to need and circumstance – leading to an almost Taoist view of science as a natural force, crucial to human progress, because through science came answers to one challenge after another."

After a telling analysis of the opportunities and demands presented by China's rapid economic growth, he closed with these words:

"At the end of the first volume of *Science and Civilisation in China*, after discussing the very limited links between the civilisation of China and the civilisation of what he describes as the "Old World", meaning Europe, Needham describes his own purpose as being to "lay open an Empire of Learning and to admit us to converse with the best and greatest of that Empire". Now that conversation is open and instantaneous. Science and civilisation do not exist in isolation in Europe or China. That is a great change in the way of the world and, in the face of universal challenges, it is a great source of hope."

KENNETH ROBINSON (1917-2006)



Kenneth Robinson died on 26th June 2006. He had an adventurous and (as he often said) remarkably enjoyable life, and made great contributions to the work of the Institute, particularly to the *Science and Civilisation in China* project. Kenneth had already been part of the NRI for years when I first met Joseph Needham in the late 1970s. In World War II he had survived first Dunkirk, then a collision with a wall at high speed when acting as an officer dispatch rider. After his recovery he hoped to start learning Chinese, but was instead sent off by the Army to study Japanese; Chinese had to wait until the war was over. After further studies at Oxford he became an education commissioner in Sarawak, and later worked with UNESCO. From there he was summoned by Joseph Needham to Cambridge, and was set to work on writing the section on Acoustics for volume 4 part 1; he was the first person to be entrusted with a whole part of *SCC* to write under his own name. Later he worked on the difficult task of trying to ensure that volume 7 of *SCC* moved from the planning stage to actual published volumes, and he found himself editing the last writings of Joseph Needham to be published. He had the good fortune to be married to two charming and wise women, and always enjoyed the company of a large family. Relatives and friends joined in a celebration of his life at the Institute on October 28th.

MODERN SCIENCE EXPLAINS AN 8TH CENTURY CHINESE REMEDY

It was always one of Joseph Needham's hopes that some observations made by early Chinese alchemists and doctors could be better understood in the light of modern scientific knowledge. An example where this is the case has recently been recognised. During the last few years there has been growing interest amongst medical scientists in the use of inorganic nitrites as vasodilators (drugs that dilate blood vessels and thus enhance blood flow). Such is the current interest that an international conference on this topic took place at the National Institutes of Health in Washington DC in September 2005. It was reported there that one way in which inorganic nitrites enter the blood stream is by the action of certain bacteria on inorganic nitrates occurring in food. These bacteria are found, quite normally, in the mouth, particularly under the tongue. An 8th century Dunhuang medical manuscript describes a treatment for cardiovascular distress (probably angina) that involves placing saltpetre (potassium nitrate) under the tongue of the patient, holding it there for some time, and then swallowing the saliva. Because of the action of the bacteria, potassium nitrite enters the body via the patient's saliva. Potassium nitrite is a vasodilator and, as angina is caused by a constriction in blood vessels around the heart, the symptoms are relieved. This is more or less what modern drugs do. That such a discovery was made in 8th century China is quite remarkable but would have given no surprise to Joseph Needham. The Dunhuang manuscript was translated by the NRI's librarian, John Moffett and the interpretation was given by Dr Tony Butler of the Bute Medical School, University of St Andrews.

Tony Butler

着舌以通心氣

Putting under the tongue to cause heart *qi* to flow freely.

治中惡急心痛手足逆冷者頃刻可殺人

For treating symptoms such as struck by evil, acute heart pains and cold in the hands and feet, which can kill a patient in an instant.

看其人指爪青者是

Look at the patient's fingers. Those with greenish-black nails are such cases.

硝石五錢匕 雄黃一錢匕

Saltpetre (potassium nitrate), 5 measures of a *bi* spoon, Realgar (arsenic sulphide), 1 measure of a *bi* spoon.

右二味共為極細末

Combine these two into a fine powder.

啟病者舍着散一匕於舌下

Lift the patient's tongue and sprinkle one measure under the tongue.

若有涎出令病者隨涎咽下

If saliva is produced, have the patient swallow it.

必愈

This is a certain cure.

A full version of this article is published in *Medieval Chinese Medicine* edited by Lo and Cullen (RoutledgeCurzon, 2005).

FESTSCHRIFT FOR PROFESSOR HO



We are pleased to announce the publication of a festschrift issue of the journal *East Asian Science Technology and Medicine* (no.24) in honour of the 80th birthday of our Emeritus Director, Professor Ho Peng Yoke. Dr Christopher Cullen, Director of the NRI, was guest editor for this issue, which was devoted to the topic of divination, a subject on which Professor Ho has published ground-breaking work. We wish Professor Ho a continued happy retirement - and note that another book by him in the Needham Research Institute series is currently in press with RoutledgeCurzon.

FRIDAY TEXT-READINGS

Our regular series of Friday seminars continues to broaden its range of topics, in terms of both historical period and geographical region. In the past year we have had topics ranging from the translation of De Morgan's *Algebra* in Japan and traditional medicine in modern Korea to recipes from ancient China, a preface to a Tang dynasty rhyming dictionary and a Qing dynasty iron banner-pole. Our thanks go to all the speakers from Cambridge and far beyond who have contributed to such an illuminating series. Full details of the current term's seminar programme are available on the Needham Research Institute's website at <http://www.nri.org.uk/seminars.html>

LEGACY

We record our gratitude for a generous legacy of £21,000 from the estate of the late Miss Ngan-Ying Chung of Hong Kong.

SIMON WINCHESTER IN CHINA

When I travelled along the most arduous of the four Needham Trails last summer, through the desert to Dunhuang, I went very much more comfortably. No truck for me, but in its place a sleek Shanghai-built Volkswagen Passat, which, I was told, was ideal for the journeys, as tough as nails.

It was certainly fast, zooming along the main Chengdu-Hanzhong superhighway and getting a speeding ticket in the process. It was certainly nimble, negotiating the tortured mountain roads up to Rewi Alley's old stamping-grounds by Shuangshipu. And though it was certainly tough it didn't at first seem to need to be - since once the Silk Road revealed itself northwest of Lanzhou, it turned out to be a billiard-table smooth dual carriageway, on the way to being equipped with electronic tollbooths, a whole world removed from the Silk Road of old, with its Arab traders and Uighur camel trains plodding slowly for mile after mile between Kashgar and Chang'an.

But then we came to the end of the Great Wall, passed the Ming dynasty fort at Jiayuguan, and the road promptly changed, becoming a great deal worse than anything we had ever known. Huge rocks littered its surface, potholes appeared that could hide a bus, and swelling waves of gritty Gobi sand blew in from the north and turned the highway surface into a vile porridge of grey grit. We slewed this way and that, we bumped and cursed, and the north wind blew sharp needles of sand into our eyes, making it difficult to see.



After the breakdown

And then suddenly came a sharp crack!, a lurch, and an assortment of red warning lights promptly snapped on in the cabin. Oil pressure low and falling, said one. Engine overheating, said another. I stopped the car, got out into the darkness and the maelstrom of Gobi sand, and shone a torch up into the engineworks. A black tide of oil was gushing out onto the roadway: I had cracked the sump, and within seconds the engine was unlubricated and then stopped dead, never to go again.

And we, all of a sudden, were going precisely nowhere.

It was almost dark. A cold wind was whipping up from the north. There was no traffic. The closest village was forty miles away, and the hotels and service stations of Dunhuang were getting on for two hundred miles off. We were well and truly – well, well and truly like Joseph Needham had been, more than a half a century before. Yes indeed, I thought to myself as I tried to settle down to sleep in the car's back seat and wait for rescue, just as he had – I was following in Needham's footsteps all right. *And how.*

Simon Winchester

THE LIBRARY

In September this year, the 18 month grant from the Andrew W. Mellon Foundation of New York for the retrospective electronic cataloguing of our library monograph holdings came to an end. Records for all our monographs, nearly 25,000 in 37 different languages, can now be accessed through the Cambridge University OPAC at <http://affint-newton.lib.cam.ac.uk/> (for further details go to <http://www.nri.org.uk/library.html>). Having records for the whole collection online at last is a tremendous benefit to the Library and to the scholars from around the world who wish to access it. I should like to thank the Mellon Foundation for their generosity, and all those who helped with cataloguing and other assistance throughout the project, especially Catherine Anson, Jing Huang, Taeko Kasama, Liu Xinyi, Cho Songwu, Tineke D'Haeseleer, and Sally Church, as well as Charles Aylmer, Ray Horne and members of the Union Catalogue team at the University Library.

In between the cataloguing, I was able to spend 3 weeks in China, once again generously supported by the Sino-British Fellowship Trust. I visited Chifeng City in Inner Mongolia as part of our SBFT exchange programme, and then returned to Beijing, where I shopped for books and visited scholars at various universities and institutes. While in Beijing, I also attended a conference on the history of metallurgy in East Asia (BUMA VI), organised by Professor Mei Jianjun at the University of Science and Technology. I then travelled down to Yunnan Province in South-west China, where I attended a 4-day conference on the history of the science and technology of China's National Minorities, which focused in particular on traditional arts and crafts.

John Moffett