

NEEDHAM RESEARCH INSTITUTE NEWSLETTER

Newsletter No. 15

EAST ASIAN HISTORY OF SCIENCE TRUST

September 1996



THE NEWSLETTER

Joseph Needham died peacefully at his home close to the Institute on Friday 24th March, 1995, at the age of 94. This double issue of the Newsletter is intended to bring our friends up to date on all that has happened since the death of our founder, and to look towards the ways in which we are building for the future on the basis of his great life's work.

This issue of the Newsletter is a catching-up exercise of a major kind. We hope that it will convince readers that we have been very active since our last issue, and we are sure that they will understand the reasons why the Institute's small staff have been otherwise occupied in the recent past. Below we describe an initiative which will, we hope, make it easier for many of our supporters to keep in touch with us.

THE NRI ON THE INTERNET

This Newsletter is now available in electronic form via the World Wide Web. Simply use your Web Browser to visit the Joseph Needham Website at <http://www.soas.ac.uk/Needham/> (you must include the final backslash). From there you will find links to the Newsletter, and to a number of other pages giving information on the NRI and its activities. These include a page for the Science and Civilisation in China project, a page for the East Asian History of Science Library, and a page giving general information about the Institute. All these pages are interlinked, so it does not matter which one you visit first. Our Web pages are maintained by Dr. Christopher Cullen, who would be glad to have your comments and suggestions for improving these facilities (email: cc3@soas).

ac.uk). General email for the Institute should be sent to the Secretary at ajk21@cam.ac.uk.

A MESSAGE FROM PROFESSOR GEOFFREY LLOYD

CHAIRMAN OF THE EAST ASIAN HISTORY OF SCIENCE TRUST

As Chairman of the Trustees I have, during the course of the last six months, initiated a series of meetings in Cambridge to draw up plans to consolidate, continue and build on Joseph Needham's work. I am delighted to report that the University authorities have given broad agreement to a development plan, the essential feature of which is to establish closer links between the Needham Research Institute and the Oriental Studies Faculty of the University while preserving the Institute's autonomy. The Institute will remain under the control of its Trustees, but we hope in future to work more closely with the University. Our joint aim is to raise funds 1) to endow a Professorial Chair in the Faculty of Oriental Studies to be held jointly with the Directorship of the Needham Research Institute, 2) to provide the endowment to secure the continued activity of the Institute, and 3) to establish new teaching and research positions and funds for graduate studentships, to broaden the base of scholars working in the areas of research created by Joseph Needham himself.

Approaches to individual potential benefactors have begun, and we will be proceeding to a public launch of an appeal sponsored by an international committee of patrons. The target for this appeal is ten million pounds.

We are all united in the aim to continue the work that Joseph Needham began and to build on his magnificent achievements. Readers of this Newsletter will, I know, be delighted at the reports it contains on current activities at the Institute, and especially on the flourishing publications programme. The very best memorial to Joseph that we can offer is to develop and maintain the Needham Research Institute as one of the premier research institutions in the world for the study of science and civilisation in China.

THANKS AND CONGRATULATIONS

In addition to our continued gratitude for the support given by the two East Asian History of Science Trusts in Hong Kong and New York, we would like to record our thanks to the following foundations: The Chiang Ching-Kuo Foundation for International Exchange (in support of research on ceramics), the Leverhulme Trust (in support of research on ferrous metallurgy), the Li Foundation of New York (in support of research fellowships), and the Lee Foundation of Singapore. We are extremely grateful to the Chinese Academy of Sciences for a most welcome and generous contribution in aid of our future plans. This gift followed the visit to Beijing by the Deputy Director and Librarian described elsewhere in this Newsletter.

There have been generous individual gifts from Professor Peter Golas, Mr Peter. Lam, and Mrs. Louise S. Ansberry.

We are pleased to be able to set on record the honours received by friends and supporters of the Institute. Professor Wang Gungwu, retiring Vice-Chancellor of the University of Hong Kong, was awarded the

Fukuoka Asian Cultural Prize for 1994. Professor Rosie Young was awarded the C.B.E. Professor Arthur Li was appointed Vice-Chancellor of the Chinese University of Hong Kong. Dr. Charles Kao, retiring Vice-Chancellor of the Chinese University of Hong Kong, was awarded the Japan Prize for 1996.

We welcome the appointment of Dr. Elisabeth Hsü to a three-year teaching and research fellowship in the Faculty of Oriental Studies, funded by the Chiang Ching-Kuo Foundation.

DR WANG LING, 1917-1994

We record with sorrow the passing of Dr Wang Ling at his family home in Nantong, China. Every reader of this Newsletter will be aware of the vital role Dr. Wang played in Joseph Needham's work. He first met Joseph Needham in China in 1943, and came to Cambridge in 1946. He remained there for ten years, and anyone who inspects the title pages and prefaces of the volumes of *Science and Civilisation in China* which had their inception during that period, as well as later on, will be made aware of the significance and variety of his contribution to the series. He spent the later part of his career in Canberra at the Australian National University, but continued to visit Cambridge at frequent intervals. In paying tribute to him, we recognise the vital role played by all the collaborators whom Joseph Needham himself often said were indispensable to the success of the SCC project.

PUBLICATIONS

This is a fast-moving aspect of the Institute's activities. We are now reaching a period of rapid publication in the Science and

Civilisation in China series. Present plans envisage that at least one volume will appear every year for the next seven years. Since our last issue two volumes have been published:

Volume 5 part 6, *Military Technology: Missiles and Sieges*: Joseph Needham, Robin D.S. Yates, with the collaboration of Krzysztof Gawlikowski, Edward McEwen and Wang Ling (1994)
Volume 6 part 3 *Agroindustries and Forestry*: Christopher Daniels and Nick Menzies (1996)

At the time of writing Volume 7 part 1 *Language and Logic*: Christof Harbsmeier is in press, and should appear near the end of this year. Peter Golas's MS for Volume 5 part 13 *Mining* is just about to move through the process of subediting. Several other works are in various stages of preparation, and will be reported when they are ready for press.

A new departure is represented by the publication of the first of the new Needham Research Institute Studies monograph series, *Astronomy and Mathematics in Ancient China: the Zhou bi suan jing* by Christopher Cullen (1996). The series is planned to contain original research on topics broadly related to the concerns of the SCC project.

CHINA TRIP

In September 1995, the Deputy Director, Dr. Christopher Cullen, and the Librarian, Mr. John Moffett, visited Hong Kong and Beijing. The purposes of this visit were, following the passing of Dr. Needham, to maintain awareness of the work of the Institute, to consult with senior Chinese colleagues, and to establish and develop contacts with Chinese institutions and scholars in our field.

After two days in Hong Kong, where we had the pleasure of meeting with directors of the East Asian History of Science Foundation, we arrived in Beijing. Our hosts were the Institute for the History of Natural Sciences (IHNS), and we should both like to thank Professors Xi Zezong, Liu Dun and Wang Yusheng for their excellent hospitality and all their help in making our visit so pleasant and successful. Discussions with the IHNS resulted in the renewal of the Library book-buying agreement for a further three years. Dr. Cullen gave a seminar on mathematics in Early China, and Mr. Moffett gave an

overview of the current situation of the Institute and the Library. Over the next week we had a series of visits to various research institutions in Beijing. These included the Institute for Historical Metallurgy, Beijing Science and Technology University, where our hosts were Professors Ke Jun and Han Rubin, the library of the Chinese Academy of Social Sciences, where our host was Mr. Luo Lin, the Institute for the History of Science, Qinghua University, where our host was Professor Wang Guangren, and the Institute for Historical Research, Academy of Traditional Chinese Medicine, where our hosts were Professors Liang Jun, Li Jingwei, Cai Jingfeng, and Ma Jixing. After Dr. Cullen's departure, Mr. Moffett also visited the Institute for Archaeology of the Chinese Academy of Social Sciences, where his host was Professor Wu Jia'an and the Institute for the History of Science at Inner Mongolia Normal University, where he attended a 40th anniversary conference in honour of Professor Li Di.

All these visits were extremely fruitful, the warmth of the welcome given us surpassing our expectations. We should like to express our deepest thanks to all our colleagues for their hospitality. We very much look forward to maintaining these close links for many years to come.

Lastly, we are very grateful to the British Ambassador, Sir Leonard Appleyard, for hosting a reception on our behalf at the British Embassy on Friday, 8th September. Among the guests were Professor Zhou Guangzhao, President of the Chinese Academy of Sciences, and many leading academics in the field of the history of Chinese science. Dr. Cullen addressed the guests, and presented a copy of the latest volume of *Science and Civilisation in China* to Professor Zhou, who made a brief address in reply. We are very grateful to Sir Leonard and his staff for hosting such a fine occasion, and for demonstrating the British Government's support for our enterprise.

LIBRARIAN'S REPORT

1995 was been a momentous year for the Library. Dr. Needham's passing shook us all, and has left a great emptiness in his habitual spaces, one which

the shifting of furniture and cabinets does nothing to diminish. Many have written on his life and achievements, but as one who knew him only in his twilight years, I can but marvel at the riches of the collection he has left to my care. It will take many years to make these fully available to researchers, and I am well aware of the responsibilities that must be shouldered.

The past two years have also been a period of unprecedented growth for the Library, and it was a particular pleasure that Dr. Needham was able to witness some of this, as a steady stream of new books appeared on the "newly catalogued" bookshelf outside his room. Thanks to short-term grants from the Chiang Ching-kuo Foundation of Taiwan, and substantial support from our New York Trust, books and journals have been pouring in. These funds have enabled us to increase the Library's monograph holdings by about 15% over the past three years, while journal holdings (mainly in Chinese) have increased fourfold. I am also pleased to report that our book acquisition agreement with the Institute for the History of Natural Sciences in Beijing has been renewed for another three years. It is this agreement which has enabled us to acquire so many materials from China. Unfortunately, though these limited grants are transforming the Library in the short-term, we still lack regular, long-term funding to assure development of the collection further into the future.

Naturally, we have endeavoured to acquire materials across the whole range of the history of Chinese science, technology and medicine, and beyond, but particular emphasis has been placed on those areas – such as metallurgy, archaeology, ceramics, Daoism and mathematics – where scholars working in the Institute were able to provide advice and guidance. However, by far the largest increase in our holdings have been in the field of traditional Chinese medicine (TCM) and pharmacology, and their history. This is a subject attracting considerable interest these days, both from historians, medical practitioners, and commercial enterprises. The past decade has also seen an explosion of publications from the People's Republic of China, and elsewhere. China has an extraordinarily rich medical textual tradition, dating back to the second century B.C., and cur-

rent estimates count over 10,000 pre-1949 monographs still extant (and this does NOT include different editions). Some of these works are being systematically reprinted in collections of rare books from libraries, and other series, and we are endeavouring to acquire as many of these as we can (I would estimate around 1500 titles so far). In addition, we have been attempting to keep up with the steady stream of dictionaries, bibliographies, indexes and other reference works, as well as numerous monographs on the history of Chinese medicine and its specific disciplines, coming out of China. We now receive over 70 TCM journals from the People's Republic of China, many of which are not held anywhere else in Europe. The result is that the Library now has the largest and most up-to-date collection on the subject in Britain, and is attracting researchers from across Europe. On our recent visit to Beijing, as you have already read, we established excellent relations with the Institute for the History of Chinese medicine at the Chinese Academy of Traditional Chinese Medicine. We hope these links will result in a series of joint research projects in the coming years, and will enable us to acquire more research materials unavailable through normal purchasing channels.

I should like to take this opportunity to thank Mrs. Gao Chuan, my assistant at the Library, for all her unstinting efforts in helping me cope with these new materials, and for all the other ways in which she helps the Library and the Institute. I should also like to thank Mr. Lowell Skar, who, supported by a generous grant from our Trust in the U.S., catalogued over 1000 of our new Chinese medicine texts. Mr. Skar has now returned to the U.S. to complete his PhD, and we all wish him every success for the future.

Our new accessions are still being catalogued and accessed into the Cambridge University Library On-line Catalogue as described in Newsletter No. 14. They can be accessed as follows: New books in Western languages are now catalogued (in full MARC format) "on-line" and stored in the Cambridge University Library On-line Catalogue System. The telnet address for access to the U.L. Catalogue through the Internet is: ul.cam.ac.uk or one can get in through the University Library's WWW home-page at: <http://www>.

cam.ac.uk /libraries/ Once one has reached the main menu of library catalogues, select catalogue 3 (Union Catalogue of Departmental and College Libraries), and follow instructions. You will notice that a new facility allows one to state the preferred library for searching. This will mean that any NRI holdings for a search "hit" will be listed first. The NRI code number is 26.

Our serials holdings can be found by searching catalogue 4 (Cambridge Union List of Serials). This means that our new records are available to scholars world-wide. The situation with new Chinese books is slightly more complex. At present they are entered as "short records" (author/title/date and place of publication), and in romanised script (Wade-Giles, though with hyphens omitted). It is hoped that in the future these can be "matched up" with full records from China so as to allow subject searching, etc., and eventually that the searching and display of records will be possible in Chinese script. These short records are stored in the Union Catalogue of Departmental and College Libraries. One searches for them in the same way as above. A few hints: remember they are in Wade-Giles, no hyphens, and I would recommend getting acquainted with the CONCISE search method. If one can give the author's surname and a couple of words of the title, then one should get a pretty close "hit" rate. At present, only a few thousand records of recently acquired Chinese books are on-line. These also do not include any of the several thousand new books on Chinese medicine.

Chinese serials are listed in the Union List of Serials, the records also being in Wade-Giles romanisation. It is hoped to have a full list of our serials available on a World Wide Web page soon. A link to this page will be set up from the Library's WWW Page at <http://www.soas.ac.uk/Needham/library>.

TASKS AHEAD

As I mentioned above, Dr. Needham has bequeathed to posterity a remarkably rich legacy. Much of this needs to be processed, catalogued, conserved and made available to researchers. Below I should like to briefly highlight the areas concerned, and the tasks ahead;

Books: Only our recent acquisitions (since 1991) are being

catalogued "on-line", and Chinese books are still only in romanised form. The enormous task of retrospectively cataloguing the pre-1991 collection of around 20,000 titles, some unique in Britain to this library, remains. In addition, Chinese (and other East Asian works) need to be catalogued in the vernacular script. Because of technical and compatibility problems, I have not yet committed the Library to a system for this yet, but there are promising developments at the University Library, in tandem with which I intend to proceed.

Conservation: Books and other holdings obviously deteriorate with age, and conserving important items is essential. Our Trust in the U.S. has generously provided us with a grant to begin work on conservation. This work will have to be ongoing, and finding the time for it amongst our many other concerns is not easy!

Off-prints: Off-prints continue to accrue. In the last Newsletter I expressed a hope to start a database of these, but no suitable multi-lingual system is available as yet. More significantly, such a project would require significant extra funding and personnel to execute.

Dr. Needham's Personal Archives: The bulk of Dr. Needham's archives relating to his private life and scientific work are housed at the University Library and more are in the process of being catalogued. I hope to be able to report more fully on this in the next Newsletter. Our main concern is with those housed here relating to his work on SCC and other publications. They fill 12 large filing cabinets! Full of notes, drafts, letters, photographs and other items, they are a mine of information, both for the study of Chinese science and of Dr. Needham's work itself. These all need to be archived, and before that has been done it is NOT possible to allow access to them, except for collaborators working on SCC. In addition to this, there are many thousands of filing cards, and also other archives relating to the Institute and his other interests regarding China. All need to be archived professionally.

Photographs: Dr. Needham has left behind a tremendous wealth of photographic material. These include: - Over 1000 lantern slides of pictures relating to the history of science and technology which he used for lectures; illustrations used in SCC

and other publications; thousands of photographs taken on his many visits to China, including those taken during his stay in Chungking from 1942-46. These all need to be archived, and ideally put on a computer database so they can be accessed and used by scholars and teachers around the world. Similar projects are in progress elsewhere, and I shall be investigating them further.

Scrolls (paintings and calligraphy): Dr. Needham collected, or was presented with, over 150 Chinese painting or calligraphy scrolls. We are in the process of listing and assessing these, with the assistance of Dr. Anne Farrer of the British Museum. It is an interesting collection, and many pieces are not "backed" in the traditional way yet. In addition, several items, some valuable, are in need of urgent repair.

DONATIONS The Library has received many donations of books in the last 18 months. I should like to thank all of you very much indeed. It is your generosity which helps to keep this library a world leader in its field. I should like to especially single out Mr. S.T. Lee of the Lee Foundation of Singapore for his donation of several hundred books. I should also like to thank the Center for Chinese Studies, Taiwan, the National Central Library, Taiwan, the Korea Foundation, and the Daewoo Foundation for their continued support and donations of books. Individual donors include: Elena Valussi Dr. Charles Burnett, Chen Chuan, Lowell Skar, Dr. Raymond Mercier, Professor W. Jacobson, Dr. Anne Birrell, Dr. Georges Metali, Dr. Michael Carr, Dr. Michael Van Remortel, Jiro Maeda, Librairie Philosophique, J. Vrin, Dr. Monica Esposito, Academiei Romane, Richard Bertschinger, Professor Chen Lifu, Dr. Christian Daniels, Dr. Guo Qinghua, Dr. Fabrizio Pregadio, Prof. Jens Hoyrup, Dr. Viviane Alleton, Professor Ezawa Hiroshi, Dr. Ute Engelhart, Stephen Feldman, Dr. Elizabeth Hsu, Dr. Vera Dorofeeva-Lichtmann, Dr. Shima Eikoh, Li Jinghua, Prof. Xi Zezong, Prof. Wang Yusheng, Prof. Geoffrey Lloyd, Dr. Clive Gates, Dr. Bent Nielson, Dr. Moolamanil Thomas, David T.C. Lie, Mei Jianjun, Prof. Goto Motoko, Professor Nakayama Shigeru, He Xiaoxin, Professor Dieter Kuhn, Mrs Wu Yu-lin, Professor Mark Elvin, Professor Liu Ts'ui-jung, Professor Ma Jixing, Professor

Liang Jun, Professor Sigeko Nisio, Metals Museum of the Japan Institute of Metals Sendai, Dr. Donald Wagner, Ostasiatiska Museet Stockholm. Huang Shi, and the Society for the Study of Xu Xiake, Wu Xiaosong

INSTITUTE ACTIVITIES

Over the past 18 months, academic activities at the Institute have flourished. The regular Friday text-reading seminars have been very popular, with a regular attendance of up to 20 people. Our thanks go to Dr. Donald Wagner and T.J. Hinrichs for organising these. There have also been occasional talks by researchers working in the Institute and visiting scholars. Speakers have included Dr. Paul Craddock, Professor Peter Golas, Dr. Lisa Raphals, Lowell Skar, Dr. Qu Anjing, David Wright, Dr. A.R. Butler, Dr. Vera Dorofeeva-Lichtmann, and others. In addition, a working group on the history of Chinese medicine has been set up. Meeting once a month, it includes researchers from the Institute, the Wellcome Unit for the History of Medicine at Cambridge University, and the School of Oriental and African Studies, London University.

Four workshops have been held at the Institute:

On 13th May, 1994, a one day workshop on the history of Chinese Astronomy was held. The morning session involved a text-reading and reassessment of the record in the *Han Shu* of a sighting of Halley's Comet in 12 B.C. The afternoon session took the form of talks by Dr. Richard Stephenson, Department of Physics, University of Durham, and Professor Ho Peng-Yoke

Daoism Seminar: A seminar on Daoism and Science took place on 15-16 August 1994. Speakers were Dr. Poul Anderson, Prof. T. Barrett, Lowell Skar, and Prof. Ho Peng Yoke.

A Workshop on Bloomery Iron-Smelting was arranged by Dr. Donald Wagner on 26th October 1994. 18 participants from Britain, Japan and China discussed bloomery iron-smelting sites and techniques in Britain, China, Korea and Japan. Speakers included Mr. Jeremy Hodgkinson, Wealden Iron Research Group, Dr. Peter Crew, Snowdonia National Park, Dr. Paul Craddock, British

Museum, and Dr. Chris Salter, Oxford University.

Lastly, the Lu Gwei-Djen Memorial Workshop "Innovation in Chinese Medicine" was held on 8-11 March 1995, organised by Dr. Elisabeth Hsü. Over the three days, papers were presented by sixteen speakers on a wide variety of topics in the history of Chinese medicine. It is hoped that selected papers from this conference will be published in due course.

SCHOLARS AT THE INSTITUTE

Four scholars have been working with us on long-term fellowships.

Dr. Donald Wagner: Dr. Wagner has worked on the development of ferrous metallurgy in China in preparation for the "Iron and Steel" volume of *Science and Civilisation in*

China, funded by a grant from the Leverhulme Foundation. Mr. Hu Weijia: Mr. Hu, from the Institute for the History of the Natural Sciences in Beijing, is here for one year funded by a grant from the Li Foundation of New York. His interests focus on interactions between China and cultures in Central Asia and further west prior to the Han Dynasty. T.J. Hinrichs: T.J. Hinrichs, from Harvard University, is here for one year

supported by a grant from the National Science Foundation. She is working towards her dissertation on epidemics in the Song Dynasty. Mr. Mei Jianjun, from the University of Science and Technology in Beijing, was formerly a recipient of the Li Foundation scholarship here. He is now studying for a PhD at the Department of Archaeology, Cambridge University, on the early metallurgy of Xinjiang.

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CAMBRIDGE

Science and Civilisation in China

Volume VI: Biology and Biological Technology
Part 3: Agro-Industries and Forestry

Christian Daniels and Nicholas K. Menzies

Series Editor: the late Joseph Needham

This volume contains two separate works. The first, by Christian Daniels, is a comprehensive history of Chinese sugar-cane technology from ancient times to the early 20th century. The second, by Nicholas K. Menzies, is a history of forestry in China. A final section compares China's history of deforestation with the cases of Europe and Japan.

£95.00 HB 0 521 41999 9 770 pp. 1996

Science and Civilisation in China

Volume V: Chemistry and Chemical Technology
Part 6: Military Technology: Missiles and Sieges

Edited by the late Joseph Needham and Robin D. S. Yates

The first of the three parts of *Science and Civilisation in China* which deal with the art of war in ancient and medieval China.

'For this immense and astonishing work of erudition no praise can be too high; ... we have a volume authoritative, fascinating and illuminating, ... of contemporary Eastern and Western progress in the sciences.'

W. M. Smart, *Nature*

£80.00 HB 0 521 32727 X 620 pp. 1995

Astronomy and Mathematics in Ancient China: *the Zhou bi suan jing*

Christopher Cullen

This lucid account shows how Chinese astronomers worked in ancient times. It also shows how the Chinese imperial government made use of the work of astronomers, and explores the links between astronomy and politics.

'The pathway for the reader is more than just academically interesting...he will find himself led through fascinating territory.'

Irish Astronomical Journal

£40.00 HB 0 521 55089 0 255 pp. 1996

Needham Research Institute Studies 1

Science and Civilisation in China

Volume V: Chemistry and Chemical Technology
Part 13: Mining

Peter Golas

This is the first history of Chinese mining to appear in a western language. The author draws extensively not only on written material but on his own observations of traditional techniques in use today. The technology is placed in the context of the political, social and economic conditions in China.

c. £95.00 HB 0 521 58000 5 850 pp. 1997

Science and Civilisation in China

Forthcoming

Science and Civilisation in China

Volume VII: The Social Background
Part 1: Language and Logic in Traditional China

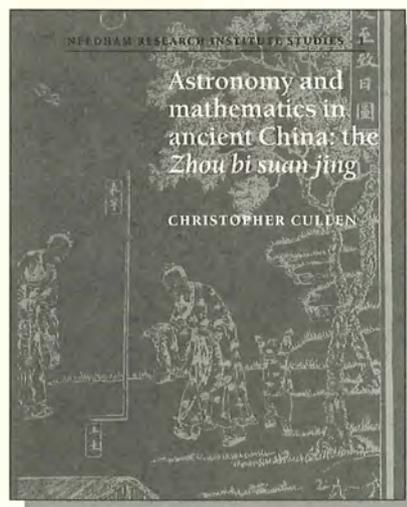
Christoph Harbsmeier

Foreword by Joseph Needham

Surveying the conceptual history of logical terminology in ancient China, this unique work in the *Science and Civilisation in China* series examines how the basic features of classical Chinese language made it a suitable medium for science in ancient China.

c. £70.00 HB 0 521 57143 X 544 pp. 1997

Forthcoming



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