NEEDHAM RESEARCH INSTITUTE NEWSLETTER

Newsletter No. 5 EAST ASIAN HISTORY OF SCIENCE TRUST January 1989

BENEFACTIONS

The Institute expresses its deep gratitude to Mrs Ansberry, the Cambridge University Press and Ms Louise Levathes for the donations that they have made recently, and to Lady Cynthia Postan for the gift of a Taihaku cherry tree.

THE BUILDING

Congratulations are due to the firm of Lyster Grillet and Harding, architects of the building, who have received the regional award of the Royal Institute of British Architects.

VISITORS

The Institute has been glad to welcome a number of visitors during the last few months, including Mrs Louise Ansberry (USA); Mr William Butler (Foreign and Commonwealth Office); members of the Cambridge Bibliographical Society; Dr Chu Shu-Li (Shanghai); Dr J. Cooper (Oxford); Mr Richard Ellis (Central Office of Information); Mr John Galvin (USA); Ambassador Gao Ê and Mr Guan Yi (Centre for International Studies, Beijing); Mr and Mrs M. B. E. Hall (University of Hull); Sir Eric Hotung and Lady Hotung (Hong Kong); Mrs Indrani Iriyagolle and her daughter (Sri Lanka); Dr Kim Sang-man (Seoul); Dr Lee Hung-Chien (Ontario); Professor W. H. McGrath (Oxford); Dr Pheng Wen-Hsien (Academia Sinica, Taipei); Dr Abdul Rahman (New Delhi); Professor Sehn Ê (Academia Sinica, Shanghai); Professor Shih Hsio-Yen (Hong Kong University); Ms Jeanne Sigler (New York); Ms Ivy Soh (Singapore); Professor and Mrs Steininger (Würzburg); Professor Romila Thapar (New Delhi); Dr Wu Wang-Shih (Academia Sinica, Nanking).

NOTE FROM THE CHAIRMAN, U.S. TRUST

I first heard of Joseph Needham and his work shortly after finishing my own graduate work at Harvard. I had established a small magazine dealing with automatic control and automation. Cambridge University Press had heard that I was interested in early examples of the use of feedback mechanisms and sent me a copy of the first volume of *Science and Civilisation in China* to review in my magazine and to make me aware of some of the findings for which Joseph was responsible in his investigations of the history of Chinese science and technology.

In U.S. parlance, "I was hooked!" I was fascinated by his work and very much wanted to meet the man.

A few years later, while speaking before a management conference which was being held at Cambridge, I took advantage of the opportunity and visited Joseph at Gonville & Caius College where he was then Master. Following this, I avidly devoured successive volumes of *SCC* as they were issued. Some years ago, Joseph renewed the personal relationship by calling on me in New York and doing me the honor of asking whether I would Chair the U.S. Trust. Happily that has led to numerous additional meetings with Joseph, Gwei-Djen and their collaborators at the Needham Research Institute.

SCC has, of course, had considerable impact on the whole field dealing with the history of science and technology.

During the 1960s, I had been working with some of the leading U.S. scholars on China in the creation of the National Committee on U.S.-China Relations. For several years prior to "ping-pong diplomacy" or Henry Kissinger's first visit to Peking, we conducted a series of studies on the assumption that relations would once again resume between the U.S. and China. From a public policy standpoint, as well as from the standpoint of the community of scholars, it was felt that it would be good to be in a position to know what agenda items would be receiving what kind of attention once relations did resume. This was, at the time, thought by some to be a politically questionable activity – though, happily, relations did resume somewhat faster than we actually expected, and it all became quite respectable!

During this period I had frequent occasion to discuss Joseph's work with the American scholars on China and to give thought to the longer term opportunities that existed in the establishment of a research institute focusing on wider scholarly work dealing with Chinese science and technology.

When Joseph approached me asking that I Chair the U.S. Trust, the opportunity of helping to move from the *SCC* undertaking into the foundation of a permanent institute fostering the work of young scholars was very attractive. While lacking any academic credentials in either China or history of technology fields, I did feel that I could play a role in turning this possibility into a reality.

Joseph and Gwei-Djen have had an enormous impact not only on the world of Chinese scholarship and the history of science, but on an increasing circle of key people who have seen in their work major implications for the present and the future.

Just as clear as the impact of Joseph's work on these several worlds of audience is the need to provide the means for successor generations of scholars to delve more deeply in the rich vein that has been so assiduously mined by Joseph and Gwei-Djen; building such an institution seems to me to be the real challenge that confronts us today. While *SCC* will never truly be finished – not only are there the volumes currently in progress, there is the need to begin to update the earlier volumes with the findings of recent research – there is the clear need to build the human institution of younger and dynamic scholars even as the final building of the physical institution is put into place.

John Diebold

STAFF NEWS

Ms Gerry Carter took up her appointment as assistant and secretary from July 1988.

Shortly after the publication of Newsletter no. 4, Dr Lu Gwei-Djen, Associate Director of the Institute, had the misfortune to suffer an accident, which necessitated an operation. Since 4 July she has been prevented from working in the Institute; recovery has been well maintained, if somewhat protracted, and she hopes to be back in full harness early in 1989.

CHINESE MEDICAL PRACTICE

Nathan Sivin, *Traditional medicine in contemporary China*; Ann Arbor: Center for Chinese Studies, the University of Michigan, 1987.

Since 1949 Chinese authorities have been making determined efforts to encourage the practice of traditional and modern medicine in combination, and a number of books have been published to enable recently trained physicians to comprehend the fundamental theories and methods on which their forbears based their diagnosis and treatment of diseases. In providing English readers with a translation of chapters 1 to 10 of the fourteen chapters of one such study (*Hsin pien Chung-i hsüeh kai yao*; the *Revised Outline of Chinese Medicine*), Nathan Sivin – contributor to *SCC* vol. 5 Part 4 – has concentrated on those parts of the work which take diagnostic and therapeutic reasoning as their subject. The translated version is preceded by a long introduction (pp. 1–199) in which he discusses some of the basic ideas (i.e., *ch'i*, Yin Yang, the Five Phases and the Six Warps) and relates these to medical theory and practice.

The study emphasises the continuity of basic philosophical theory within which medicine has emerged and continued to develop; the myth of a stagnant frame of mind, with which traditional China is often charged, requires rebuttal here no less than in other respects of Chinese thought. Throughout its long history, traditional medicine has called on a few texts, such as the *Huang ti nei ching* (Inner Canon of the Yellow Lord; perhaps first century B.C.) and the *Shang han lun* (Treatise on Cold Damage Disorders; perhaps second century A.D.), which have acquired deep respect and demanded considerable attention among doctors and students of medicine. The texts have also been subject to continual re-interpretation and comment, and the ideas that they invoke are by no means treated in a consistent manner. Constant care is therefore needed in studying these texts and their successors, so as to discriminate between the different significance attached, e.g., to *ch'i* both within this type of writing and in more purely philosophical texts.

Throughout the book readers are reminded of the basic Chinese attitude to Nature; heaven, earth and man form integral parts of a single organic universe, interacting on one another and subject alike to the operation of the major cycles of being. In addition the book considers the scholastic and social background from which medical practice arose in China. Despite many distinguished physicians and a centrally organised medical service for the palace, it need occasion little surprise to those familiar with the Chinese tradition to realise that a distinct medical profession did not arise within the framework of officially established training.

M.L.

TOMBS AND TEXTILES

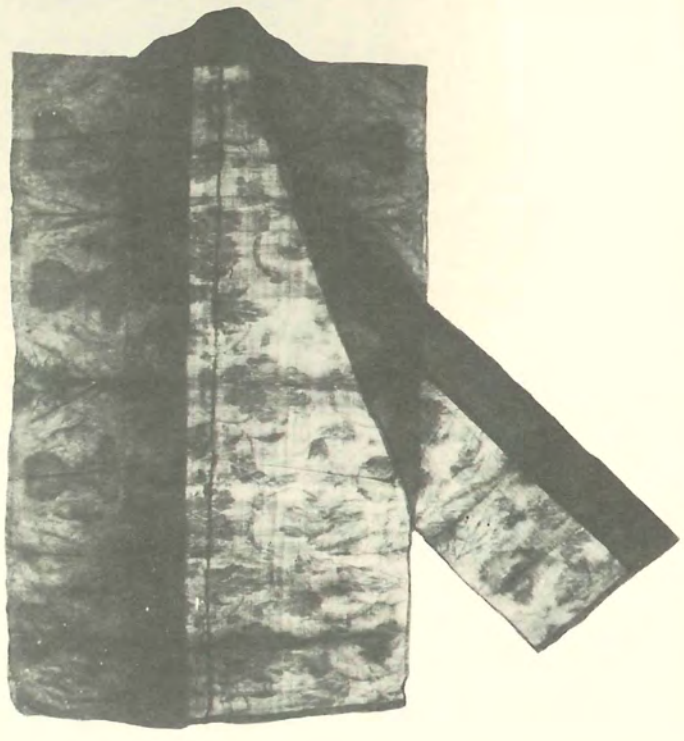
In *Newsletter No. 4* attention was drawn to the production of textiles as seen in a group of weavers working body-tension looms that are skilfully displayed on a lid of a bronze drum excavated at Shih-chai-shan (Yün-nan province). This type of archaeological evidence is rare compared with the numerous pictorial illustrations, such as the famous stone-rubbings of Han times, that depict looms and other textile machinery. But even such depictions of working processes cover only a few aspects of the history of technology. Textual sources and textiles found in tombs form the main evidence with which to unravel the threads of development and to produce a pattern of technological evolution. During the last twenty years the number of textile finds from archaeological sites has considerably increased, and reliable information is available, as a result of excavations conducted under continuously improving scientific conditions. Textile materials of superb unprecedented quality, and hitherto unsurpassed historic authenticity, especially from the Chou, Han, Sung and Ming dynasties, are now on display in Chinese museums.

Quite apart from the publications about textile finds made in Sinkiang, mostly dating between Han and T'ang times, and the well published Ma-wang-tui textiles of the Han dynasty that both deserve an annotated bibliography, there are a large number of tombs yielding textiles which are described and reproduced only in Chinese publications. These have never been displayed outside China, and while it is not possible to list all instances, a few should be mentioned here. In *Wên-wu* 11:1964 there is a report on a Ming tomb from 1515 which contained more than eighty pieces of clothing. *K'ao-ku* 6:1965 describes textiles excavated from the tomb of the mother of a Ming prince (she died in 1365). A number of textiles found in the tomb of Hsü Pu (1450–1517) and his wife are described and illustrated in *Wên-wu* 2:1982. More Ming textiles from the tombs of Chu I-yin (1537–1603) and Chang Shou-tsung (1526–1603) are published in *Wên-wu* 8:1982, and the tomb of Wang Shih-hsien from Yüan times yielded excellent fabrics (*Wên-wu* 2:1982). Outstanding textiles recovered from the Liao dynasty tomb of Yeh-mao-t'ai in Fa-k'u county (Liao-ning province) are dated between 959 and 986 (*Wên-wu* 12:1975). Among them was a shroud made of silk tapestry in gold threads with a powerful design of dragons and other creatures. This shroud is without parallel in Chinese textile history.

Excellent single specimens of textile craftsmanship and design were discovered in many tombs of Liao, Yüan and Ming times. But several well preserved complete sets of official robes, garments of various types, underwear and other textile items were found only in two tombs of the Southern Sung dynasty. The authenticity and unique nature of the material is unquestionable. One tomb, discovered in Kiangsu province in 1975, belonged to a student of the Imperial College named Chou Yü (1222–1261) and contained more than thirty textile items (*Wên-wu* 7:1977 and *K'ao-ku hsüeh-pao* 1:1977). The corpse of the tomb's occupant was surprisingly well preserved.

The second tomb, also discovered in 1975, was situated in a suburb of Fu-chou (Fukien province). This belonged to Huang Sheng (1226–1243), daughter of an official named Huang P'u, and married to an imperial clansman and official named Chao Yü-chün (died 1249). The tomb contained 354 textile items, of which 201 were articles of clothing. This material is documented in the archaeological report *Fu-chou Nan Sung Huang Sheng mu*, (Peking:-Wên-wu ch'u-pan-she 1982) and *Wên-wu* 7:1977.

According to these reports and my own examinations of the original material in Fu-chou in 1986 the textiles are of top quality. The weavers made use of the most advanced weaving techniques of their time; the textile printers applied various difficult (and in other textile finds only rarely preserved) types of textile printing and painting techniques. The variety of textile material and the cut of the clothes suggest that the deceased and her family were rather conscious of fashion. (See also Dieter Kuhn, *Die Song-Dynastie (960–1279): Eine neue Gesells-*



Sleeveless unlined jacket, dark brown, woven in a complex warp-weave with peony pattern; from the tomb of Huang Sheng, died 1243; length 70 cm. From *Fu-chou Nan Sung Huang Sheng mu* (Peking: Wên-wu ch'u-pan-she, 1982).

This type of weave was manufactured exclusively for the summer garments of members of the official class.

chaft im Spiegel ihrer Kultur, (Weinheim: Acta Humaniora, VCH 1987), ch.VI:3).

Objects excavated from the tombs of unnamed persons, scholar-officials, nobility and gentry contribute to our knowledge of their burial traditions, their standards of life, their economic influence, their fancies and extravagances. Among these objects patterned silk textiles play an outstanding role; not only do they help to illuminate descriptions in contemporary textual sources, they also provide evidence of the social standing of the deceased person and his or her family. The craftsmanship displayed in the weave of the fabrics, their structure and pattern offer a technical key to an analytical understanding of the development of loom technology and the art of weaving.

Textiles were mostly found in tombs. This means that various types of information are available at the same time; e.g. about the owner of the tomb, his life and career, the tomb itself and the objects. When studied in comparison with information from textual sources, the textiles pose questions that require new evaluations of known facts and the correction of hitherto unquestioned assumptions. They lead finally to a fundamental methodical rethinking of long cherished ideas of the development of textile technology in ancient China. As a result any research on the history of textile technology cannot be limited to the technical features of loom technology; it must be extended to history of the art of weaving patterned fabrics, with a strong emphasis on the economics of textile production and the social conditions of work. It is even possible that the archaeological material may reveal a previously unheard story of a Chinese society that was addicted to fashion.

Dieter Kuhn

THE FIFTH INTERNATIONAL CONFERENCE ON THE HISTORY OF SCIENCE IN CHINA UNIVERSITY OF CALIFORNIA, SAN DIEGO AUGUST 5th – 10th 1988.

This conference was the latest in a series which has so far been held in Leuven, Hong King, Beijing and Sydney, and was organised under the direction of Professor Chen Cheng-yi of UCSD's Department of Physics. Financial support was provided by the Weikung Institute (a not-for-profit organisation based in the local Chinese community), by the University, and by a number of other bodies. Abstracts of 183 papers are listed in the conference documents, though rather fewer were actually read. Approximately two hundred participants attended the conference: well over half of them were Chinese, and the majority of papers were read in Chinese. My own attendance at the conference was supported by grants from the Universities' China Committee in London, the British Academy, and the School of Oriental and African Studies, University of London.

This was the largest conference in the series so far, and the organisers provided facilities worthy of its size and scholarly importance. All the meetings took place in a single building, which contained twin auditoria and a number of seminar rooms, so that problems of moving between the various simultaneous sessions were much reduced. We were housed in simple but comfortable student rooms near the meeting hall; many of us had the benefit of impressive views over the Pacific from our windows. For those of us not familiar with American cuisine the refectory was a delicious surprise. One slow-starting Englishman not only found out for the first time what hashed browns actually are, but also that if combined with eggs easy over they enable the mind to be switched on in time for an 8.30 a.m. seminar.

The formal opening ceremony of the conference was pleasantly and originally conceived. Most of the time was taken up with a musical performance by three talented young Chinese musicians, who gave us all a chance to sit quietly and calm nerves jangled by long-distance travel and the rush of last-minute preparations. The next item on the agenda was originally planned to be a brief keynote address by Joseph Needham, who was unfortunately prevented from attending the conference by arthritis, which would have made a long air trip impossible. We were however very pleased to have him with us in the form of an electronic *avatar:* a video made in the gardens of the Needham Research Institute in Cambridge brought us a message from him to the assembled participants.

The academic activities of the conference then got under way. Four papers were read to the conference in plenary session:
Lu Gwei-Djen & Joseph Needham (Cambridge) "A History of Forensic Medicine in China" (read by Christopher Cullen in the absence of the authors).
Nathan Sivin (Philadelphia) "On understanding the language of Chinese Medicine".
Ho Peng Yoke (Melbourne), "The Chinese Pseudo-Science of Fate Calculation with Special Reference to the *Ziping* Method.
Ke Jun (Beijing), "The Present State of Research in China on the History of Metallurgy".

In the space available here it is not possible to summarise the content of the large number of papers presented in the twenty specialist sessions that took up most of the rest of the conference, and it would be an invidious task to select a few for special mention. The overall quality was very high, and it is clear that the field is in a state of vigorous if uneven growth. It was very encouraging to see the considerable number of younger scholars taking part: there is obviously no lack of talent entering research. The one great desideratum is that we should all try to keep in touch with one another's work now that the rate of worthwhile publication is accelerating so markedly. Conferences like this one go a long way towards attaining this goal.

Apart from reading learned papers to one another, scholars need the opportunity to meet informally to exchange ideas under relaxed circumstances, or just to form friendly contacts to oil the wheels of future academic activities. The organisers gave us all plenty of opportunities to do this. Our evenings were taken up with generous Californian hospitality in a number of forms. Two of the largest occasions were the concluding conference dinner in the Faculty Club, and the lavish welcoming banquet hosted by the local Chinese community in a San Diego Chinese restaurant. At the banquet it was announced that the inaugural Wei-Kung prize had been awarded to Joseph Needham, Lu Gwei-Djen and Wang Ling. The citation noted that "Their wisdom and dedication have contributed much to our realisation that science and technology are rooted in a multicultural tradition, and are a product of global human endeavour." Less formal but equally enjoyable entertainments included a beach party at which the astronomically-minded amongst us tried very hard (but failed) to see the 'green flash' as the sun sank impressively into the ocean. All of us, including U.S. citizens from those other parts of the country then suffering an oven-like heat wave, came away convinced that California is one of the most comfortable and welcoming places for any activity, not least academic conferences.

The organisers of the next conference in the series obviously have a very hard act to follow. I say this with particular intensity of feeling since Michael Loewe and I have at the request of the Director of the NRI taken on that very role. The Sixth Intenational Conference on the History of Science in China will take place in Cambridge in 1990, within the provisional time-slot of August 8th – 15th. We hope to make it the best so far, as is fitting for a gathering of historians of Chinese science in the university where such great contributions to the field have been and continue to be made. The usual conference circulars will be sent out in due course, and anybody wishing to be sure of receiving details should write to The Secretary-general, 6th ICHSC, 43 Norwich Street, Cambridge CB2 1ND.

Christopher Cullen

THE CAMBRIDGE HISTORY OF CHINA

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For further details of these please write to Lorna Williams at Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU.

The following titles will be published over the next ten years:

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Part 3:	*Agro-Industries:* Animal Husbandry, Fisheries, Agricultural Industries and Forestry
Part 4:	*Horticulture and Botanical Technology* (A continuation of the volume on botany already published.)
Part 5:	*Zoology*
Part 6:	*Nutritional Science and Fermentation Technology*
Parts 7 to 10:	*Institutes of Medicine* (Anatomy and Physiology), *Medicine, Pharmaceutics*
Volume VII:	THE SOCIAL BACKGROUND
Part 1:	*Introductory Considerations*
Part 2:	*Economic Contexts*
Part 3:	*Language, Logic and Science*
Part 4:	*Political and Ideological Dimensions, General Conclusions*

It must be emphasised that the subject-matter of some of the parts given above is subject to alteration as research proceeds. Further information about these titles will be included in future editions of the *Needham Research Institute Newsletter*.

Edited by Michael Loewe and printed by University Printing Services of Cambridge University Press; please address all enquiries to the Editor c/o Needham Research Institute, 8 Sylvester Road, Cambridge CB3 9AF.