

## Kyoto Group of the History of Chinese Science

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Rivalling the celebrated project of Joseph Needham's *Science and civilisation in China*, the Kyoto group of the history of Chinese science, organized by Kiyosi Yabuuti, has recently completed a series work of their long-time collaboration.

The pre-history of this group goes back to the pre-War period, when Chūryō Nōda and Yabuuti, as regular staff members of the calendrical science section of the Institute of Oriental Culture at Kyoto, engaged in research into the history of Chinese astronomy and calendrical science with the cooperation of sinologist colleagues in the Institute. In 1948, the Institute became affiliated with the University of Kyoto and changed its title to Jinbun Kagaku Kenkyūsho (Research Institute of Humanistic Sciences) and the calendrical science section was converted into a research professorship in the history of science, the function of which was to organize a team research in the history of Chinese science and technology. The post was held by Yabuuti, and under his chairmanship, assisted by Mitsukuni Yoshida, approximately fifteen members, who lived in Kyoto and its vicinity, were invited to join from outside of the Institute. Most of the senior members had teaching or research experience in pre-War China. Since then, with minor changes and recruitment of junior members, this group has been maintained more than twenty years through weekly seminars in which group examination of classical texts has been the main feature.

They started with the reading of *T'ien-kung k'ai-wu* (The exploitation of the works of Nature, Ming encyclopedia of technology), analyzing the text from many angles according to specialities of each member. The research results were published in 1953 under the title *Tenkō kaibutsu no kenkyū* (Studies on the *T'ien-kung k'ai-wu*).

Parallel to the textual study, they made frequent group tours to the workshops of traditional technology still extant in Kyoto and nearby areas. On the basis of these observations at the site, research monographs were produced on traditional technology and industry, such as ceramics, textile and brewery.

Since 1953, the research group decided on investigating Chinese science and technology to follow chronological order since the pre-Han time. Whereas Needham's project attempts to survey vertically throughout history each department of science and technology volume by volume, the Kyoto group used a horizontal arrangement in four volumes. Each volume concentrates on certain periods in Chinese history, and consists of articles written by specialists of the group in each

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subject. In the second work on medieval China and in later volumes, the format became much improved, adding an outlook of science and technology in each period at the opening by Yabuuchi. English translations of the tables of contents of all four volumes are given below. With exceptions of specifically noted items, articles are written in Japanese.

- I. "Chūgoku kodai kagaku gijutsushi no kenkyū (Studies in the history of ancient Chinese science and technology); a special issue of *Tōhō gakuhō*, Kyoto no. 30 (1959) devoted to the subject.
- Kiyosi YABUUTI, "Observational techniques during the Han dynasty and the formation of the star manual of Shih-shên" 1
- Riichi ŌSHIMA, "On ancient Chinese castles and fortresses" 39
- Motonosuke AMANO, "Development of ancient Chinese agriculture—the growing process of agricultural technique in northern China" 67
- Mitsukuni YOSHIDA, "A study on *Chou-li, k'ao-kung-chi* (Records of the rites of the Chou dynasty, the artificers' record)" 167
- Saburō MIYASHITA, "Ancient Chinese view on diseases and therapy" 227
- Osamu SHINODA, "Cooking art of the ancient Chinese" 275
- Minao HAYASHI, "Vehicles in *Chou-li, k'ao-kung-chi*" 311
- II. *Chūgoku chūsei kagaku gijutsushi no kenkyū\** (Studies in the history of medieval Chinese science and technology) ed. by Kiyosi Yabuuti, 540 pp. Tokyo: Kadokawa shoten, 1963.
- Kiyosi YABUUTI, "The outlook of the history of Chinese science and technology" 5
- Osamu SHINODA, "A critical biography of Kuo P'u (276–324)" 45
- Keiji YAMADA, "The medieval view of nature" 55
- Kiyosi YABUUTI, "Mathematics" 111
- Kiyosi YABUUTI, "Astronomy" 135
- Mitsukuni YOSHIDA, "Medieval chemistry (alchemy) and the arts of immortality" 199
- Saburō MIYASHITA, "Treatment of disease in the Sui and T'ang periods" 259
- Tameto OKANISHI, "Pharmaceutical aspects of Chinese medicine" 289
- Osamu SHINODA, "Researches in the dietary classics" 307
- Osamu SHINODA, "Alcoholic beverages in the Middle Age" 321
- Osamu SHINODA, "Identification of plants mentioned in T'ang dynasty poetry" 341
- Shirō KITAMURA, "Records of plants in *Yu-yang tsa-tsu* (A.D. 863)" 363
- Motonosuke AMANO, "Medieval agricultural evolution" 383
- Kiyosi YABUUTI, "Astronomical tables in China, from the Han to the T'ang dynasties" (in English) 445
- Kiyosi YABUUTI, "The *Chiuchi-li*" (An annotated translation in English) 493

\* Briefly commented by N. Sivin on *Isis* vol. 55, no. 182, 537 p. (1964).

- III. *Sō-Gen jidai no kagaku gijutsushi*\* (A history of science and technology in the Sung and Yuan periods) ed. by Kiyosi Yabuuti, 468 pp. Kyoto: Jinbun Kagaku Kenkyūsho, 1967.
- Kiyosi YABUUTI, "The development of science and technology in the Sung and Yuan periods" 1
- Keiji YAMADA, "The natural philosophy of the Sung" 33
- Kiyosi YABUUTI, "The mathematics of the Sung and Yuan periods" 53
- Kiyosi YABUUTI, "The astronomy of the Sung and Yuan periods" 89
- Saburō MIYASHITA, "Treatment of disease in the Sung and Yuan" 123
- Tameto OKANISHI, "The Chinese pharmaceutical tradition and the pharmacology of the Chin and Yuan" 171
- Mitsukuni YOSHIDA, "The military technology of the Sung and Yuan" 211
- Mitsukuni YOSHIDA, "The technology of production in the Sung period" 235
- Osamu SHINODA, "The history of alcoholic liquor manufacture in the Sung and Yuan" 279
- Osamu SHINODA, "The *Yin-shan chêng-yao* (Dietary Essentials (1330))" 329
- Motonosuke AMANO, "A study of the *Nung shu* (The great agricultural compendium) by Wang Chen of the Yuan period" 341
- IV. *Min-Shin jidai no kagaku gijutsushi* (A history of science and technology in the Ming and Ch'ing periods) ed. by Kiyosi Yabuuti and Mitsukuni Yoshida, Kyoto: Jinbun Kagaku Kenkyūsho, 582 pp. 1970.
- Kiyosi YABUUTI, "A history of science and technology in the Ming and Ch'ing periods" 1
- Kiyosi YABUUTI, "The calendrical science of Tai Chên" 27
- Itaru IMAI, "On the *Ch'ien-k'un ti'-i* (Essentials of cosmology, Ricci's work)" 35
- Keizō HASHIMOTO, "Compilation of the *Li-hsiang k'ao-ch'êng* (Compendium of calendrical science and astronomy)—astronomy and calendrical science in the early Ch'ing period" 49
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- Saburō MIYASHITA, "Pharmaceutical classification of *Pên-tsao kang-mu*" 243
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\* Briefly commented by N. Sivin on *Isis* vol. 59,5. no. 200, pp. 91-91, (1968).

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