

Philosophy and Science in Pre-Modern China

Instructor: Professor Xiaochun Sun

Classroom: Hist. 209

Course Description:

Did ancient China have science? What were the nature and characteristics of Chinese science? How did ancient Chinese thinkers produce a system of knowledge that unites Heaven, Man and State? How was the search of knowledge about nature related to the governance of the state? How were science and technology applied to the bettering of national economy and people's livelihood? What social and cultural factors have affected the rises and falls of Chinese science? ... This course will deal with the philosophical ideas and social institutions that gave China its social and political character, and will look at some of the unique developments of Chinese science and technology.

This course will introduce students to some primary and secondary literature on the subject. It surveys some major concepts of Chinese scientific thought that are essential for a deeper understanding of Chinese science, culture and society.

Course requirements:

Close reading of reading assignments and vigorous participation in class discussions. Periodic leading of class discussion. Something written, to be negotiated (e.g., bibliography, project proposal, essay review, translation of primary texts, etc.).

Required books:

Geoffrey Lloyd and Nathan Sivin. *The Way and the Word: Science and Medicine in Early China and Greece*. New Haven & London: Yale University Press, 2002.

Mark Elvin. *The Pattern of the Chinese Past: A Social and Economic Interpretation*. Stanford: Stanford University Press, 1973.

Reading package on reserve.

Weekly Reading Assignments:

Week 1: Introduction

Week 2: Confucianism, Taoism and Science

Max Weber. *The Religion of China*. Chapter VIII, "Conclusion: Confucianism and Puritanism."

Joseph Needham. "Poverties and Triumphs of the Chinese Scientific Tradition," *The Grand Titration*. London: George Allen & Unwin Ltd., 1969.

Week 3: Scientific Thought

Benjamin L. Schwartz. *The World of Thought in Ancient China*. Chapter 9, "Correlative Cosmology: The 'School of Yin and Yang'." Harvard University Press, 1985. Pp. 350-382.

Joseph Needham. "Human Law and the Laws of Nature." *The Grand Titration*. Pp. 299-330.

Week 4: Conception of "Nature"

Sun, Xiaochun: Moral and Political Significances of Nature in Ancient China. *Studies in the History of Natural Sciences* vol. 25 (2005), 49-57

Week 5: State, Cosmos, and Body

Lloyd and Sivin. *The Way and the Word*. Chapter 5, "The Fundamental Issues of the Chinese Sciences."

Lü Buwei. *The Annals of Lü Buwei*. Book 1. A Complete translation and Study by John Knoblock and Jeffrey Riegel. Stanford, 2000.

Week 6: Astronomy and Astrology

Sun Xiaochun. 2000. "Crossing the Boundaries Between Heaven and Man: Astronomy in Ancient China." In *Astronomy Across Cultures: The History of Non-Western Astronomy*, ed. Helaine Selin, 423-54. Dordrecht: Kluwer Academic Publishers.

Week 7: Medicine in Chinese Culture

Joseph Needham. *Science and Civilisation in China*. Vol. VI:6, section 44, Medicine, "Medicine in Chinese Culture."

Week 8: Scientific Change in Ancient China

Cullen, Christopher. "Motivations for scientific change in ancient China: Emperor Wu and the Grand Inception astronomical reforms of 104 B.C." *Journal for the History of Astronomy* 24 (3): 185-203, 1993.

Nathan Sivin, "Calendar reform and occupation politics." *Studies in the History of Natural Sciences*, Vol. 24, Suppl. 2005: 58-67.

Week 9: Science, Technology, and Economic Changes

Mark Elvin. *The Pattern of the Chinese Past: A Social and Economic Interpretation*. Stanford: Stanford University Press, 1973.

Week 10: Science and Social transformation of the Song China

William H. McNeill. *The Pursuit of Power*. Chapter 2, "The Era of Chinese Predominance, 1000-1500." The University of Chicago Press, 1982.

Jacques Gernet. *A History of Chinese Civilization*. Part 5, The Chinese "Renaissance". Cambridge University Press, 1996.

Week 11: Technology and Gender

Francesca Bray. *Technology and Gender: Fabrics of Power in Late Imperial China*. Chapter 4. "Fabrics of Power: The Canonical Meanings of Women's Work." University of California Press, 1997.

Charlotte Furth. *A Flourishing Yin: Gender in China's Medical History, 960-1665*. Chapter 1, "The Yellow Emperor's Body." University of California Press, 1999.

Week 12: Wrap Up: Cultural Manifold

Geoffrey Lloyd and Nathan Sivin. *The Way and the Word: Science and Medicine in Early China and Greece*. Introduction and Chapter 6, "Chinese and Greek Science Compared."