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Philosophical perspectives on technology in Chinese Society



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ABSTRACT

In developing countries today, social attitudes toward technology exhibit a more positive appreciation than is often the case in the developed world. Technology is seen as fundamentally good because of its ability simultaneously to reduce the burden of human labor and to increase productivity. In developing countries, many of the unintended negative side effects of technological development are not yet apparent or sufficiently threatening. At the same time, this positive appreciation is in dialectical relationship with a cultural past and traditional suspicion about technics. A brief case study of the emergence of philosophical perspectives on technology in China can serve to illustrate these points. The argument will begin with some general observations about education and philosophical attitudes toward technology in Chinese culture. It will continue with discussions of philosophy and technics in ancient China and of philosophy and technology in modern China. A conclusion offers some general reflections.

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1. Background: education in China

Some degree of formal education has been more continuously present in Chinese Society than in any other society in the world. Although the *Analects* describe conversations between the sage Confucius and his students in a time roughly parallel to that presented in Plato's Socratic dialogues, Plato's Academy was closed in 529CE and never re-opened. By contrast, Confucian educational traditions, although often interrupted, have continued into the present.

Additionally, prior to the modern period, Chinese philosophy was the foundation for the formal education of anyone who was educated. Even the earliest grades stressed the reading and memorizing of passages from the Confucian classics. Philosophy could serve this function in primary education because in the Confucian tradition learning provides guidance for dealing with the problems

of human life. Confucius expressed such a view clearly at the beginning of the most basic Confucian text: "To learn and then have occasion to practice what you have learned – is this not satisfying? [1]" The goal of Confucian philosophy is practical, not theoretical knowledge.

The non-elitist and practical character of Chinese philosophy can be elaborated with three further points. First, it should be noted that the Western word "philosophy" is quite recent in Chinese; it was initially rendered into Chinese as zhexue in 1873 by the Japanese scholar Xi Zhou (1829–1897) who studied in the Netherlands. (Recall that from 1637 to 1854 the only Western country in regular contact with Japan was the Netherlands and that in the late 1800s Japan was also of considerable influence in China, especially because of the positive Japanese experience of learning from the West.) According to Shuowen jiezi [Analytical Dictionary of Characters], the first word book giving a systematic analysis of grapheme and word origins in Chinese, the initial character zhe means "knowledge" or "capacity to acquire knowledge", with an extended meaning of wisdom; and the second character xue means "learning". The Chinese term for "philosophy" thus means "learning to become a wise and knowledgeable person" [2].

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Xi Zhou came up with his proposal for this translation of "philosophy" into Chinese only after a long period of reflection on the best way to capture the meaning of Western philosophy in the Chinese language. Before the word coinage by Xi Zhou, the abstract notion of philosophy was always embedded in more specific neo-Confucianism terms created by Cheng Hao (1033–1107), Cheng Yi (1032–1085), and Zhu Xi (1130–1200), such as *qiongli xue* (inquiry learning into the universe), *xingli xue* (theory of human nature), or *li xue* (learning of principle).

In a note to explain why he decided to create *zhexue* to replace specific terms with a more general one, Xi Zhou wrote:

The original English word for *zhexue* is *philosophy*, and the French word is *philosophie*. Both derive from the Greek word *philosophos*, which means the person who loves *(philo)* wisdom *(sophos)*. The functional implication in the Chinese language is the so called "scholar who follows the example of the wise person", according to a proposal by Zhou Dunyi in the Song dynasty. Later generations specifically identified philosophy [in general] with neo-Confucianism [a specific philosophy] and even literally translated the former as the doctrine of neo-Confucianism. In many instances, it is better to translate philosophy as *zhexue* in order to distinguish it from Confucianism in East Asia [3].

This analysis by Xi Zhou requires commentary. Zhou Dunyi (1017–1073) was a Chinese neo-Confucian philosopher who, in his *Tongshu* [All-embracing Book] distinguished three types of educated person: the sage, the wise person, and the scholar. The sage is the most educated and acts in accordance with the principles of heaven (that is, of all reality); the wise person strives to be but has not yet become a sage and is thus of a lower rank; the scholar strives to be but has not yet become wise and is of still lower rank. In Confucianism, the ultimate goal of education is nothing less than sagehood; however, this cannot be achieved overnight but only through a step-by-step transition.

Second, it can also be noted that even when acting in accordance with the principles of heaven, the sage is not separated from human affairs. In the words of Feng Youlan (1895–1990), a Chinese philosopher who made special contributions to the revitalization of Chinese philosophy in the twentieth century, the sage stands out not in terms of behavior but in terms of orientation. According to Feng,

The sage does nothing more than most people do, but, having high understanding, what he does has a different significance to him. In other words, he does what he does in a state of enlightenment, while other people do what they do in a state of ignorance [4].

Finally, third, in Chinese philosophy ethics dominates over epistemology, practice over theory. In the words of a knowledgeable and influential American interpreter of Chinese philosophy,

The Platonists were more concerned with knowing in order to understand, while the Confucians were more concerned with knowing in order to behave properly toward other men.

In China, truth and falsity in the Greek sense have rarely been important considerations in a philosopher's acceptance of a given belief or proposition; these are Western concerns. The consideration important to the Chinese is the behavioral implications of the belief or proposition in question. What effect does adherence to the belief have on people? What implications for social action can be drawn from the statement? [5].

Confucius makes the same point in the following passage:

Every day I examine myself on three counts: in my dealings with others, have I in any way failed to be dutiful? In my interactions with friends and associates, have I in any way failed to be trustworthy? Finally, have I in any way failed to repeatedly put into practice what I teach? [1].

This strong practical orientation naturally supports an appreciation of the human practice and experience. Technics — the craft making and using of artifacts which becomes in the modern period systematized into technology — is an indispensable part of daily life. As such technics naturally becomes very early an object of Chinese philosophy. This is reflected in the various words used to discuss making and using.

In modern Chinese, English words such as "art", "skill", "technique", and "technology" can all be translated as iishu. Unlike the situation with philosophy as zhexue, the creator of the characters jishu is unknown. But jishu is also a word that deserves special comment. In ancient Chinese, ji and shu were always used separately. According to Shuowen jiezi, ji means "ingeniousness and skillfulness of craftsman", with an extended meaning of "(exclusive) talent and the ability of craftsmen in general", although it sometimes refers to "certain special arts" such as singing and dancing. Ji can be acquired only by intuition and understanding and be perfected through practice. The original meaning of shu is "the ways or roads in the town", with an extended meaning of "skill, method, procedure". Shu refers not only to the skill, method and process in physical making and using, but also to mental action, political trickery, martial arts, art, arithmetic calculating, necromancy, Daoist magic, and more. In this sense, Chinese knowledge is based on shu, which means that it pays more attention to the configuration of methods and procedures in order to memorize and be able to use them flexibly in practice [6].

Still a third word which, because of its close association with "technology", deserves some mention is *gongcheng* or "engineering". According to *Shuowen jiezi*, the original meaning of *gong* is "(artisan's) skillful work on adorning something" literally, but some scholars, one of them is Yang Shuda who was a famous linguists on Chinese language in China, argue that it originally refers to "a kind of instrument, such as bevel gauge" [7]; and that of *cheng* is "a measurement unit of length", with an extended meaning of "a general name of measurements of all kinds". As historians Joseph Needham and Wang Ling have concluded,

From the earliest times the word *gong* implied work of an artisanal character, technical as opposed to agricultural. This is perpetuated in the modern term for

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