

A Comparative Approach to the Cultural Dynamics of Sino-Western Educational Co-operation

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Introduction

The purpose of this article is to examine comparatively three distinctive exemplars of Sino-Western educational co-operation: Tongji University as an expression of Sino-German educational interaction, Qinghua University with its roots in Sino-American relations, and the lesser-known Zhongfa University, an important institution of French–Chinese scholarly collaboration in the pre-Liberation period. The present open-door climate has given rise to contemporary projects of educational co-operation between China and each of these countries, as well as many other western countries, which might be illumined by some reflection on an earlier period. It will be of interest, therefore, to investigate the particular combination of scholarly values or ethos created by each institution and its relevance to the wider problematic of the modernization of Chinese scholarly culture.

The contribution of western scholarly values and patterns to China's cultural modernization was, in my opinion, secondary to a dynamic of change located within Chinese society. It was nevertheless real and enduring, expressed both in the establishment of specific educational institutions and in a broader influence over notions of how a modern Chinese education system should be organized. It was also a heterogeneous one, due to the very different character of 'modern' higher institutions in France, Germany and the United States, and the distinctive historical processes that produced them. It should be useful, therefore, to analyse what each of these patterns contributed to the Chinese context and how far they were a positive force for modernization.

For the purpose of this article, the modernization of scholarly culture will be viewed in terms of the introduction of new values concerning what kinds of knowledge hold prestige and how knowledge should be organized within higher education institutions. These new values stand in contrast to the patterns of traditional Chinese and European scholarship, and so might be identified at the most general level against the backdrop of the past. A concise ideal type of the Confucian scholarly tradition would highlight the fundamental distinction between those who labour with their minds, the ruling class, and those who labour with their hands, the three subordinate classes of farmers, craftsmen and merchants.¹ The higher prestige 'pure' knowledge associated with mental labour might be defined as applied social sciences, or more specifically as the principles and techniques of benevolent government, drawn from authoritative classical texts. The applied natural sciences were richly developed, most notably in

1. Mencius, *The Confucian Classics*, Vol. II, translated by James Legge (London: Trubner and Co., 1875), pp. 207–208.

association with the classes of farmers and craftsmen and under the supervision of scholar-officials.² Pure speculative knowledge was rare in the social sciences,³ and its link with Daoism in the natural sciences did not ensure it much prestige.⁴ While the western university tradition has striking divergences from this pattern, a similar prestige is given to pure knowledge, differently defined, and the authority of classical texts legitimating high status knowledge is common to both traditions.

From the European experience and western liberal thought, one might deduce the need for the following changes in a modernization process. The prestige of the applied sciences essential to economic modernization, both agricultural and industrial, must be raised. They should be integrated with the pure intellectual thought systems of modern science in such a way as to facilitate the creation and testing of new scientific theory.⁵ The social sciences should relinquish their authoritative basis in classical texts and their unchallenged supremacy over the natural sciences for a creative interaction in the development of social scientific method. While this schematization does not coincide with Chinese views of such a process, it may be useful for measuring the degree to which particular western configurations for the organization of knowledge in the higher curriculum contributed to the transformation of Chinese higher education.

Studies of the May 4th Movement would be a logical starting place for a consideration of Chinese views on the modernization of scholarly culture. However, if Mao's ideas for the transformation of higher education in the early Cultural Revolution period are taken as the most radical of these views, some similar concerns are evident. A central theme was the call for uniting theory and practice, mental and manual labour, and so eradicating Confucian values that had exonerated scholars from participation in productive labour. The advancement of scientific knowledge was also a concern, although science was seen less as a pure intellectual thought system than as a series of techniques whose full potential for advance could only be released under the optimum conditions of political transformation. Maoist views on the social sciences naturally differed radically from the liberal approach summarized above, yet there was a parallel concern with overcoming dogmatism and authoritarianism.⁶

Further reflections on Chinese views of scholarly modernization lie beyond the scope of this article. The focus will be rather on the German,

2. Joseph Needham, *Science and Civilization in China* (Cambridge: Cambridge University Press, 1954).

3. The absence of a tendency towards speculative thought in the social sciences can be illustrated most dramatically by the fact that no Chinese scholar conceived of a government without an emperor up to the 19th century, with the exception of Daoist notions of anarchy, an interesting contrast to the utopias going back to Plato in western social thought.

4. Joseph Needham, *A Shorter Science and Civilization in China* (Cambridge: Cambridge University Press, 1978). Chapter 8 discusses the importance of Daoism for Chinese scientific thought.

5. I am thinking of the Popperian definition of the growth of scientific knowledge by speculative conjecture and rigorous critical testing. Karl Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* (London: Routledge and Kegan Paul, 1963).

6. Hu Shiming and Eli Seifman, *Towards a New World Outlook* (New York: Ams Press, 1976). This book contains an excellent selection of documents and commentary which illustrate the Cultural Revolution approach to modernizing Chinese scholarly culture.

American and French patterns of higher education, the way in which knowledge came to be valued and organized within the 'modern' higher curriculum in each case, and the respective contribution of each in the Chinese context. Tongji and Qinghua Universities have already been the subject of carefully study, and their role in China's modernization can be assessed right up to the present. They will therefore provide the background for a more detailed consideration of Zhongfa University, which has received less attention. Its failure to survive into the post-Liberation era makes the question of the potential contribution of values and patterns from French scholarly culture to China's modernization more difficult to answer though no less interesting. The article will conclude with some tentative reflections on contemporary educational co-operation between China and the West, particularly the issues which the Sino-French connection cast into relief.

Sino-German Educational Co-operation

In Germany's modernization process new knowledge was introduced into the higher curriculum through the establishment of distinctive institutions, the *technische hochschulen*, which focused on the applied sciences and new professions needed for industrial modernization.⁷ These formed a separate track of higher education, both complementary and subordinate to that of the universities which had retained their medieval commitment to pure knowledge in the arts and sciences, as well as traditional professional training in medicine, law and theology.⁸ By 1900 some of the *technische hochschulen* had achieved a legal status equivalent to that of the universities, yet the institutional separation of pure and applied fields of knowledge remained a characteristic feature of German higher education into the 20th century. Pure knowledge and traditional professional training tended to retain highest prestige.

Significantly, the model introduced into China by German initiatives in the early part of this century was closer to the *technische hochschule* ethos than that of the university. A hospital founded by two German doctors in 1899 and financed by German industrial firms in Shanghai stimulated the need for modern medical training and led to the opening of the Tongji Medical College in 1907.⁹ In 1912 a college of engineering was added, which provided both education in the engineering sciences within a curriculum drawn from the *technische hochschule* and lower level technical training.¹⁰ The college was administered by a 21-member council com-

7. Isolde Guenther, "A study of the evolution of the German *technische hochschule*" (unpublished Ph.D. thesis, University of London Institute of Education, 1972).

8. Charles McLelland, *State, Society and University in Germany 1700-1914* (Cambridge: Cambridge University Press, 1980). Fritz Ringer, *The Decline of the German Mandarinate* (Cambridge, Mass.: Harvard University Press, 1969).

9. Françoise Kreissler, "L'Action culturelle allemande en Chine de la fin du XIX^e siècle à la Seconde Guerre Mondiale" (unpublished doctorat de 3^e cycle, Ecole des Hautes Etudes en Sciences Sociales, Paris, 1983), pp. 63-112.

10. While medicine was a high prestige area of traditional professional knowledge in Germany, in this German initiative in China it became linked to engineering as an applied

prising Chinese public figures, German industrialists and engineers, and the German consul in Shanghai.

When China declared war on Germany in 1917, the work of Tongji was so valued by Chinese educationists that they managed to save it and to gain Chinese government funding for its support. A brief period of further official co-operation with the Germans in its financing and administration ensued in the early twenties, and in 1927 it was made a national university under the new Nationalist government. A considerable number of German teachers remained on its staff until the outbreak of war in 1937, and continued subventions from the German government and German industry ensured excellent facilities. German standards in the engineering sciences gave the university considerable prestige in China, and its degrees were recognized in Germany as well.¹¹

The Tongji curriculum thus exemplified an important aspect of scholarly modernization in the prestige it gained for the applied sciences.¹² However, its roots in the *technische hochschule* pattern made it less fitted for promoting the other features of scholarly modernity suggested above: the interaction of pure and applied sciences, and of natural and social sciences. Although a college of pure sciences was founded in 1935 to meet Nationalist government requirements that a university have three colleges, the disruption of the war years, 1937–45, hindered the effective development of teaching and research in the basic sciences. Similarly the social sciences, which only gradually found their way into the German *technische hochschule* curriculum, were not successfully developed with Tongji, in spite of short-lived efforts, first in 1916, later in 1946, to balance the curriculum by their inclusion.

The other track of German higher education, the Humboldtian university model,¹³ might be accredited with a complementary contribution to modernizing China's scholarly culture. The May 4th Movement broke out at Beijing University just two years after Cai Yuanpei had taken up the chancellorship in 1917 and reformed the university according to principles derived from his own experience of the German university. With reference to the curriculum, this had meant the removal of applied fields such as engineering and commerce, and an explicit commitment to pure scholarship in the arts and sciences.¹⁴ It also meant a German-inspired attempt to

science in an institution which was to remain up to this day closer to the *technische hochschule* than the university in character.

11. For a Chinese account of Tongji's development, see the article by Ding Wenyuan, the last president before Liberation, "Guoli Tongji daxue" ("National Tongji University" in Zhang Qiyun (ed.), *Zhonghua minguo daxue zhi* (*A Record of Universities in the Chinese Republic* (Taiwan: Zhonghua Wenhua Chubanshiye Weiyuanhui, 1954), pp. 118–30.

12. This influence was no doubt increased by the return of Chinese students from study in Germany, many of them having been exposed to the *technische hochschulen* also. Liang Hsi-Huey, *The Sino-German Connection* (Amsterdam: Van Gorcum, 1978), chapter 3, gives details on Chinese students in Berlin. Of 450 in Germany in 1931, 300 were in Berlin and the majority of these were in the Technische Hochschule, Berlin.

13. For the central values of this model, which has dominated modern German higher education, see Wilhelm Von Humboldt, "On the spirit and organizational framework of intellectual institutions," *Minerva*, Vol. 8 (April 1970), pp. 242–50.

14. One of Cai's first acts as chancellor of Beida was to remove the engineering school to Beiyang University in Tianjin on the grounds that the university should be dedicated to pure

facilitate the cross-fertilization of sciences, arts and social sciences with philosophy as the synthesizing discipline.¹⁵ The fertility of the milieu which Cai created for a modernizing Chinese scholarship at Beida is attested both by the May 4th Movement and by the leading role which Beida played in subsequent decades.

Cai was also deeply impressed with certain aspects of French academic organization, and it seems he envisaged for China a modern higher education system that combined features of the German and French patterns, both of which he had been exposed to during his eight-year sojourn in Europe.¹⁶ A small number of universities devoted to pure scholarship, one in each major geographical area, were to exercise leadership over the whole education system in a pattern similar to that of the French *académie* style of administration. Attempts to implement this system under the university council in 1927–28 will be discussed in a later section dealing with Sino-French educational co-operation.

What is of interest here is to note how the distinction between the role of Beida and that of Tongji, one committed to pure learning in major disciplines, the other to applied knowledge in specific professional fields, became a major organizing principle of the higher curriculum when Soviet patterns were adopted in 1952. A small number of so-called 'comprehensive universities,' initially 14 and increasing to 18 by 1957, had a curriculum defined in terms of pure academic disciplines, while the remaining two hundred or so institutions were dedicated either to a range of applied sciences, as in the case of the polytechnical universities or, more commonly, to one specific professional field.¹⁷ While the intention was for all to have equal prestige,¹⁸ the major 'comprehensive universities' as well as a few distinguished polytechnical universities tended to dominate the scene. The need for the bourgeois scholars within these institutions to undergo re-education was recognized and major campaigns carried out to that end,¹⁹ but the organization of knowledge itself, with pure academic

learning (*xue*) not technique (*shu*). His aims for the university, expressed in his inaugural address as chancellor in January 1917, and in the preface he wrote for Beida's first research journal in 1918, reflect a clear Humboldtian model of the university. See *Cai Yuanpei Xuanji* (*Selections from Cai Yuanpei*) (Beijing: Zhonghua Shuju, 1959), pp. 23–25, 66–68. For more general discussions of Cai's leadership of Beida, see William Duiker, *Ts'ai Yüan-p'ei: Educator of Modern China* (University Park and London: Penn State University Press, 1977) and Eugene Lubot, "Ts'ai Yüan-p'ei: From Confucian scholar to chancellor of Peking University" (unpublished Ph.D. thesis, Ohio State University, 1970).

15. Xiao Chaoran *et al.*, *Beijing daxue xiaoshi* (*A History of Beijing University*) (Shanghai: Shanghai Jiaoyu Chubanshe, 1981), pp. 43–44. In 1919 the credit system was introduced and courses in the core area of philosophy were required by all. This core was expanded to include courses in psychology and education in later years.

16. Gao Pingshu, *Cai Yuanpei nianpu* (*A Biography of Cai Yuanpei*) (Shanghai: Zhonghua Shuju, 1980), pp. 23–36.

17. An excellent contemporary account of what this reorganization involved is found in Chung Shih, *Higher Education in China* (Hong Kong: Union Research Institute, 1953). See also Leo A. Orleans, *Professional Manpower and Education in Communist China* (Washington: U.S. Government Printing Office, 1960), pp. 176–203. This provides a list of all institutions by type as released by the Chinese Ministry of Education in 1957.

18. Qian Duansheng, "Higher education takes a new path," *China Reconstructs* (September–October 1953), p. 4.

19. Theodore Chen, *The Thought Reform of Chinese Intellectuals* (Hong Kong: Hong Kong University Press and Oxford University Press, 1960).

disciplines separated from applied fields, was not seriously challenged until 1957.²⁰

By a strange anomaly, the one 'comprehensive university'²¹ that sheltered the fewest bourgeois scholars and appeared least likely to perpetuate academic traditionalism may have been the most susceptible. People's University, founded in 1950 and modelled after the Moscow Planning Institute,²² was explicitly intended as an institution for training the leading cadres of a new socialist administration. Speaking at its opening in 1950, Liu Shaoqi claimed it was China's first truly modern university and it should lead the way in the remoulding of all the older universities which had grown up under capitalism.²³ Its curricular offerings were restricted to specific areas of the social sciences linked to the needs of the socialist administration and organized within Soviet-delineated categories.²⁴ In 1955–56 these were expanded to include more traditional academic areas: history, philosophy, economics and journalism. As well as producing high-level cadres, it trained teachers of Marxism–Leninism for the whole higher education system.²⁵

20. In the Great Leap Forward, this organization of knowledge was challenged in two important ways. Certain applied fields were introduced into some of the comprehensive universities, and details on this can be found in the institutional histories given in *Zhongguo gaodeng xuexiao jianjie* (*A Brief Introduction to Chinese Institutions of Higher Learning*) (Beijing: Jiaoyu Kexue Chubanshe, 1981). Secondly, a new model was exemplified in the creation of two universities of science and technology along the lines of the MIT or Cal. Tech. pattern. *Zhongguo Keji Daxue* (The Chinese University of Science and Technology) in Beijing was moved to Hefei during the Cultural Revolution period and has developed a very high national profile, while Shanghai Keji Daxue has remained in Shanghai over the subsequent period and gained less national attention. See Tsang Chiu-sam, *Society, Schools and Progress in China* (London: Pergamon Press, 1968), p. 208; for a discussion of this development.

21. People's University has always been included by the Chinese on their list of comprehensive universities, although its curriculum is even less comprehensive than that of such institutions as Beijing University, which included pure arts and sciences and excluded all applied fields. See *Current Background*, No. 462 (1 July 1957) for a translation of the Chinese Ministry of Education brochure "Guide to Institutions of Higher Education," issued in March of 1957, where People's is clearly categorized as a comprehensive university. See also Thomas Fingar, *Higher Education and Research in the People's Republic of China: Institutional Profiles* (Washington, D.C.: U.S. China Education Clearinghouse, Committee on Scholarly Communication with the People's Republic of China and National Association for Foreign Student Affairs, 1981), pp. 99, 264, for a translation of contemporary materials that still categorize People's as a comprehensive university.

22. This piece of information was provided by Mr Huang Shiqi, director of the information and documentation unit of the Chinese Ministry of Education. His paper, "On some vital issues in the development and reform of higher education in the P.R.C.," presented at the 5th World Congress of Comparative Education (Paris, July 1984), gives a valuable assessment from a Chinese perspective of both the strengths and weaknesses of the Soviet model as applied to China, particularly in relation to the engineering sciences. The interpretation of the role of People's University here is of course entirely the author's.

23. *The Collected Works of Liu Shaoqi*, Vol. II, 1945–1955 (Hong Kong: Union Research Institute, 1969), pp. 35–54.

24. *Ibid.* p. 238. In his speech, Liu justified the separation of social and natural sciences and People's concentration on the social sciences by reference to an anecdote concerning Confucius and the competition for good students. People's need not compete for good students in the natural sciences, he argued, as "this way of dividing work is to the benefit of the country."

25. The first eight departments of People's University were: economic planning, finance and credit, trade, co-operatives, factory management, law, diplomacy and Russian. See C. T. Hu, "The Chinese People's University: bastion of Marxism–Leninism," in R. Niblett and R.

In spite of its declared role of service to a modern socialist administration and its special position within the higher education system, People's may have been the most vulnerable to the resurgence of Chinese scholarly traditionalism. With no possibility of the interaction of the natural and social sciences and with an assured position of supremacy and authority, there is little wonder that it could be described as "a huge beehive of doctrinairism" in 1957,²⁶ and that it should have remained closed for the full decade of the Cultural Revolution period. Its task of offering rigorous training in the applied social sciences based on authoritative texts to scholars assured of leading positions within the bureaucracy came even closer to the patterns of high prestige knowledge within traditional Chinese scholarly culture than that of any of the other 'comprehensive universities'.²⁷

What is being suggested here is that the Soviet model adopted in 1952 fostered a compartmentalization of knowledge areas in its institutional structures that was historically rooted in the German two-track distinction between pure scholarship and applied fields of scientific knowledge. It was a pattern which successfully produced large numbers of experts for modernization tasks, yet one that made pure scholarship vulnerable to dogmatism and scholasticism. This vulnerability may have been greatest in the one institution whose curriculum was closest to traditional Chinese notions of scholarly purity or mental labour, People's University.

The Cultural Revolution might then be interpreted as an attack on the way in which knowledge was valued and organized within higher education, and the power relations this organization sustained. The central themes were a call for the unity of theory and practice, mental and manual labour, and for the integration of specialist disciplines and professional areas into the interconnected vision of truth provided by Mao Thought. Interestingly enough, one of the first institutions to emerge as a national model for the revolution of higher education after the initial attacks on the system was the Tongji May 7th Commune, which was extolled in newspaper articles of November 1967 and May 1968 for the way in which it had integrated its curriculum and had become "a great school of Mao Tsetung Thought combining tuition with designing and building . . . in order to train workers with both socialist consciousness and culture."²⁸

While Liu Shaoqi had seen People's University as the prototype of the modern Chinese university, Mao's famous pronouncement of 21 July 1968

Butts (eds), *Universities Facing the Future* (London: Evans Brothers, 1972), pp. 65ff, for an account of People's University in its first decade.

26. Xu Mengxiong, "A huge beehive of doctrinairism," *Guangming ribao* (*Light Daily*), 25 May 1957. This and other articles expressing violent criticism of People's University and its authoritarian stance are translated in Roderick MacFarquar, *The Hundred Flowers Campaign and the Chinese Intellectuals* (New York: Octagon Books, 1974).

27. The role of People's University as the arbiter of ideological orthodoxy has compelling parallels with that of the Hanlin Academy in traditional China.

28. *Peking Review*, Vol. 11, No. 20 (17 May 1968), p. 11. See also Vol 10, Nos. 47 and 48 (17, 24 November 1967).

suggested a different sort of prototype: "It is still necessary to have universities; here I refer mainly to colleges of science and engineering."²⁹ Tongji, with its roots in the *technische hochschule* tradition, had potential for the combination of pure and applied sciences, as well as the integration of some social sciences into this pattern, a potential that is beginning to find realization in the post-1978 period.³⁰

Sino-American Educational Co-operation

The modernization of American scholarly culture took its own unique form. The Morrill Act of 1862 set the service of agricultural and industrial modernization as the aim for the Land Grant colleges,³¹ an aim which shaped the ethos of the newly emerging universities as well. University curricula thus included the pure and applied arts and sciences, professional training in new and old professions at different levels. The graduate school was invented for research and professional formation, an institution modelled after the German university and embodying some of its values, yet fostering a 'modern' curriculum.

The distribution of knowledge within this integrated system of higher education³² ensured high prestige for the applied sciences and facilitated their interaction with the pure sciences in a way that provided a fertile environment for both. The interaction between the natural and social sciences brought into question the authority of the classical and religious texts that had dominated the curricula of the colonial colleges and fostered an open critical approach to the social as well as the natural sciences.³³ The values and patterns of the American university thus appear well suited to the task of transforming Chinese scholarly culture.

One institution which played an important role in their introduction to China was Qinghua Preparatory School, which by 1929 had sent 1,209 students for study in the United States.³⁴ These students returned to become professors and university presidents³⁵ in China's expanding higher education system in the twenties and thirties. Naturally they

29. *Peking Review*, Vol. 11, No. 31 (2 August 1968), p. 3.

30. "Tongji zhaosheng zhuanke jieshou" "An introduction to specializations at Tongji for student recruitment"), 1983. This brochure for students applying to Tongji introduces new departments in physics and chemistry, also in engineering management.

31. R. Hofstadter and W. Smith, *American Higher Education: Documentary History*, Vol II (Chicago and London: University of Chicago Press, 1961), p. 568.

32. Joseph Ben-David, *American Higher Education: Directions Old and New* (New York: McGraw Hill Book Co., 1972). Ben David suggests that integration of knowledge areas is the most important and distinctive characteristic of modern American higher education.

33. R. Hofstadter R. and W. Metzger, *The Development of Academic Freedom in the United States* (New York and London: Columbia University Press, 1955). This book perceptively chronicles the move from the age of the college to that of the university and the struggle to introduce a 'modern' approach to knowledge with the American higher curriculum.

34. *Qinghua daxue xiaoshi gao* (*A Draft History of Qinghua University*) (Beijing: Zonghua Shuju, 1981), p. 68.

35. *Ibid.* p. 8. Three of the most famous to become university presidents were Mei Yiqi (1909), Hu Shi (1910) and Zhu Kezhen (1910).

shaped the curricular patterns, as well as aspects of administration and organization, on the American model.³⁶

In 1908 the American Congress had passed a bill to provide that Boxer indemnity funds owed by the Chinese should be directed towards the education of young Chinese in the United States, thus setting a precedent to be followed later by other western nations, including the French. In 1911 Qinghua School was established in Beijing to prepare young Chinese for study in the United States and to select those who were to go. The school was administered by a board of managers including Chinese officials from the ministry of foreign affairs and American diplomatic personnel.³⁷

By 1924, 689 students had already been sent for study in the United States, following the principle established in 1908 that 80 per cent should study the applied natural sciences and 20 per cent the social sciences and arts.³⁸ With China's own higher education system rapidly developing, it no longer seemed wise to concentrate all the funds on sending undergraduates abroad, and in 1925 Qinghua opened a university section which took on the name National Qinghua University and continued to be administered by the Ministry of Foreign Affairs.³⁹ In 1929 the preparatory school was closed, and from that time on about 20–25 Qinghua graduates were to be sent to the United States each year for postgraduate study.⁴⁰

In 1927 students and staff launched a successful campaign to have Qinghua transferred to the jurisdiction of the National University Council, subsequently the Ministry of Education, and its funds put under the care of a Sino-American cultural foundation. The principle of university autonomy, or academic government by professors, was the clarion call of this movement and continued to be an important academic principle in Qinghua's later development.⁴¹

The composition of the Qinghua University curriculum is of key interest to this article. In 1926 seventeen departments were established encompassing a breadth typical of the American college tradition: Chinese literature, foreign literature, history, politics, economics, educational psychology, physics, chemistry, biology, agriculture and engineering.⁴²

36. A valuable historiographical critique of *Qinghua daxue xiaoshi gao*, as well as a translation of parts of it, is provided by John Israel in *Chinese Education*, Vol. XV, Nos. 3–4 (Fall–Winter 1982–83). The other institutions which played a crucial role in introducing the American higher education ethos to China, largely the ethos of the college as against that of the university, were the 16 missionary colleges. See Jessie Lutz, *China and the Christian Colleges* (Ithaca and London: Cornell University Press, 1971).

37. *Qinghua daxue xiaoshi gao*, pp. 45–53.

38. Shu Xincheng, *Jindai Zhongguo liuxueshi* (*The History of Recent Chinese Study Overseas*) (Shanghai: Zhonghua Shuju, 1927), pp. 78, 205.

39. *Qinghua daxue xiaoshi gao*, pp. 45–53.

40. *Ibid.* p. 150.

41. *Ibid.* pp. 108–110. This principle was stronger at Qinghua, which emulated the American university model and therefore was influenced by the German-derived notion of university autonomy, than at institutions patterned after the American college such as Fudan and the missionary colleges.

42. *Ibid.* p. 49.

The credit system was used to ensure that all students had a general foundation in the first year before proceeding to more specialized study.

In the same year a graduate research school was started with the significant aim of applying western scientific methods of research to China's cultural heritage and fostering the interaction of Chinese and western culture. This institution flourished for a few years under such celebrated scholars as Liang Qichao, Wang Guowei and Chen Yinke, but closed in 1928 due to the deaths of Liang and Wang, and the difficulty of sustaining this attempt to bring about some sort of synthesis between Chinese and western scholarly culture.⁴³ It was succeeded in 1929 by graduate courses in modern areas of knowledge which by 1934 had taken the shape of three graduate schools in the fields of arts, sciences and law.⁴⁴

With the setting up of the Nationalist government, Qinghua's internal organization was changed to conform to new legislation. Three colleges of arts, sciences and law had departments grouped accordingly. When the distinguished engineering scientist Mei Yiqi was appointed chancellor in 1932 a college of engineering was added and it rapidly became one of the university's greatest areas of strength.⁴⁵ In the war years the contribution of this college and its graduate research programmes in the areas of electrical and aeronautical engineering⁴⁶ further enhanced the prestige of Qinghua's applied sciences.

Agricultural sciences, which had been the cornerstone of the American land grant colleges and had contributed so much to modernization in the United States, did not fare so well. In spite of strong pressure from the Nationalist government, Qinghua's leaders refused to establish a college of agriculture in 1933,⁴⁷ though they did set up a small agricultural research centre in the following year, in order to prevent the government from diverting some of the Boxer indemnity funds elsewhere for this purpose. Only in 1947, when the contribution of this research in the war years had been recognized, was a college of agriculture established.⁴⁸

A report by Qinghua's chancellor in 1936 gives an interesting picture of the university's development. Student numbers had grown from 305 in 1925 to 1,308 in 1935, with an additional 43 research students. One-third of all students were in the college of engineering.⁴⁹ Of 256 graduates in 1937, 95 (37 per cent) were in the applied sciences, 44 (17 per cent) in pure sciences, 73 (29 per cent) in the social sciences and 44 (17 per cent) in the arts. The 22 selected for graduate study in the United States in that year

43. *Ibid.* pp. 50–53.

44. *Ibid.* pp. 113–14.

45. *Ibid.* pp. 111–12.

46. *Ibid.* p. 112.

47. *Ibid.* pp. 113–14.

48. A less detailed account of Qinghua's pre-Liberation development is provided in Zhang Qiyun (ed.), *Zhonghua mingguo daxue zhi*, pp. 75–80.

49. *Qinghua tongxuehui zonghui xiaoyou tongxin* (Newsletter of the Qinghua Alumni Association's Central Branch), Vol III, Nos. 1–5 (1966) pp. 1–5. These student numbers should be considered in light of the yearly income from Boxer indemnity funds of more than U.S. \$700,000.00. It is pointed out in *Qinghua daxue xiaoshi gao*, p. 56, that this meant Qinghua students had four times the amount of money spent on them per year as students of Beijing University in 1925.

reflected a much greater emphasis on the applied sciences: 15 in applied sciences, 1 in pure sciences, 5 in social sciences and 1 in arts.⁵⁰

Qinghua's publications over these years also evidence some contribution to transforming scholarly culture. In addition to the *Qinghua xuebao* (*Qinghua Learned Journal*) which came out twice yearly from 1927 and included articles in the natural and social sciences, a special journal for the sciences was started in 1931, and in 1935 the *Qinghua xuebao* was increased to four issues a year. Also the student-run *Qinghua Weekly* published articles on both the social and natural sciences. It reacted strongly to Nationalist government initiatives in the early thirties to suppress the social sciences in favour of an all-out development of the applied natural sciences.⁵¹ Qinghua's confirmed strength in the social sciences and their open development in interaction with the natural sciences demonstrated some success in this aspect of scholarly modernization.

The reckoning came, however, in 1952. The new communist government was more successful than the Nationalist one had been in implementing a policy of all-out emphasis on the applied sciences needed for national construction. Qinghua was stripped of all curricular areas except the applied engineering sciences and was made China's leading polytechnical institution.⁵² The new Qinghua could thus contribute to scholarly modernization only in one major respect – the conferring of high prestige on the engineering sciences – and this it did supremely well.

After the initial stages of the Cultural Revolution, a purified Qinghua⁵³ was selected as the national model which should guide the formal reopening of the whole higher education system in 1971. With its tradition in both pure and applied natural sciences, it fitted Mao's definition of the revolutionary university as a college of science and engineering, and the investigation report on the revolutionized Qinghua, published in *Red Flag*, evidences an interest in the issue of how scientific knowledge advances that is not to be found in the reports on Tongji mentioned above.⁵⁴ This may have been linked to Qinghua's pre-Liberation strength

50. *Qinghua xiaoyou tongxin* (*Qinghua Alumni Newsletter*), Vol. 4, Nos. 6 and 7, pp. 4–6.

51. This point is emphasized in an editorial of the *Qinghua zhoukan* (*Qinghua Weekly*), Vol. 38, Nos. 7 and 8 (21 November 1932), an issue explicitly dedicated to the social sciences.

52. Li Yuying (ed.), *Gaodeng xuexiao xuesheng de xuexi he shenghuo* (*The Study and Living Conditions of Students in Higher Learning Institutions*) (Hong Kong: Shenghuo, Dushu, Xinzhishi, 1955), p. 40. This post-Liberation account of Qinghua gives its aims as "to nurture high quality engineers, researchers in the engineering sciences and teachers for higher engineering institutes." It had a five-year programme and its departments included machine building, power machinery, electrical engineering, radio engineering, water conservancy, civil engineering and construction.

53. A graphic account of this purification process is provided in William Hinton, *Hundred Day War* (New York: Monthly Review Press, 1972). One of the points on which Qinghua's president, Jiang Nanxiang, was violently criticized was the way in which he had acted on the principle of university autonomy or academic government by professors through recruiting top intellectuals into the Party and so assuring academic control of the university.

54. *Strive to Build a Socialist University of Science and Engineering*, issued by the workers and PLA Thought Propaganda team at Tsinghua University (Beijing: Foreign Languages Press, 1972). Two qualities suggested are the courage to innovate and abolish misleading beliefs, and the ability to criticize, both of which fit the Popperian definition of the growth of

in the pure sciences, as well as its more obvious connection with the concern of Chinese leaders for the survival of science in the early 1970s.⁵⁵

In the reforms of the post-Gang of Four period, Qinghua has gone much farther in restoring some of its pre-Liberation strengths, with new departments in the pure sciences added to those in the engineering sciences, as well as the inclusion of such social sciences as economic management.⁵⁶ Qinghua's development over the 49 years since its establishment as a university in 1925 thus illustrates rather well the potential of the American scholarly ethos as a source of modern values and patterns of knowledge within the higher education system.

Where it failed, however, was in raising the agricultural sciences to the same level of prestige as the engineering sciences, in this way missing a crucial feature of the American Land Grant college model. This may have been due, before Liberation, to the strength of the principle of academic government by professors. It was compounded by the choice of Soviet higher education patterns in 1952. The low prestige of the agricultural sciences remains one of the serious weaknesses of contemporary Chinese higher education.⁵⁷

Sino-French Educational Co-operation

The French paradigm of the modernization of scholarly culture, insofar as this was linked to higher education, is a revolutionary one. The medieval universities were abolished by fiat in 1793,⁵⁸ and *grandes écoles* established in order to promote applied natural and social sciences appropriate to the needs of a modernizing society.⁵⁹ The university was reopened by Napoleon in 1808 as a unified national institution, part of the state itself (*l'état enseignant*) and embracing all levels of education. It was to inculcate a spirit of nationalism, and it drew inspiration from aspects of Jesuit organization.⁶⁰ With the faculties of the university committed to

scientific knowledge given above. (See footnote 5.) For a discussion of the process whereby new scientific knowledge was to be created, see pp. 24ff.

55. Merle Goldman, *China's Intellectuals Advise and Dissent* (Cambridge, Mass.: Harvard University Press, 1980), pp. 214–31 offers a thoughtful discussion of the debates over science in this period.

56. *Zhongguo gaodeng xuexiao jianjie*, p. 9.

57. Chinese awareness of this is evidenced by the fact that the improvement of higher agricultural education and research has been a priority in the educational projects being funded by World Bank loans, and three of ten are related to this area. There is even a discussion going on about the possibility of creating a few leading institutions directly after the Land Grant model. See Frank Farner, "World Bank Group education projects in China," paper presented at the 5th World Congress of Comparative Education (Paris, July 1984), for an overview of the ten World Bank projects in Chinese education.

58. H. C. Barnard, *Education and the French Revolution* (Cambridge: Cambridge University Press, 1969), p. 150.

59. *Ibid.* pp. 138ff. F. Artz, *The Development of Technical Education in France* (Cambridge, Mass. and London, England: The Society for the History of Technology and MIT Press, 1966). Artz makes the point that "by the early 19th century France was the only country in the world where engineering was clearly and definitely established as a learned profession" (p. 161).

60. E. Durkheim, *The Evolution of Educational Thought* (London: Routledge and Kegan Paul, 1977), p. 308. Antoine Prost, *L'Enseignement en France* (Paris: Armand Colin, 1968), p. 23.

teaching students in the pure arts and sciences, as well as traditional professions of law and medicine, and the higher prestige *grandes écoles* fostering new professions in the applied natural and social sciences, institutional patterns emerged that embodied revolutionized values concerning what constitutes high status knowledge, a development quite different from either the German or the American one.

With this paradigm in mind, it will be of interest to explore what it was in French scholarly culture that captured the admiration of Chinese scholars in the early twentieth century, and what aspects of the French experience they introduced to China through Zhongfa University (l'Université Franco-chinoise). First, the historical background and genesis of the project in China and France will be considered, then the university itself in Beijing, the organization of its curriculum and the ways in which its journal opened aspects of French scholarly culture to Chinese readers. Thirdly, some attention will be given to the Institut Franco-chinois of Lyons which was associated with the university. Finally, in the absence of any post-Liberation outcome of this experiment in Sino-French co-operation, I will conclude with some comparative reflections on France's contemporary scholarly relations with China.

Genesis of the Project. Rather than looking in detail at the personalities involved⁶¹ and the logistic and financial problems that had to be solved in setting up a Sino-French university,⁶² I will use a sociology of knowledge approach and view the early development of Sino-French educational co-operation through the eyes of Chinese who participated in it as they looked back on their achievements in 1925. Two articles appeared in early issues of the university journal which afford some insight into how it was viewed, and touch on the heart of the dilemma of cultural modernization. Both point out that *Zhongfa Jiaoyu* (Sino-French education) was born in the same year as the *Zhonghua Minguo* (Chinese Republic) and that this was no accident.⁶³ A second point strongly emphasized was that this educational co-operation, initiated by the Chinese and meeting an enthusiastic response from the French, had no trace of imperialism, unlike the widely held conviction that American support for the Qinghua project had definite imperialistic overtones.⁶⁴

Rather, Chinese scholars of their own free choice looked to France because of the superiority of its scholarly culture, something they felt should be regarded as a world heritage. They also looked to France in

61. One of the leading personalities, Li Yuying or Li Shizeng, and his role in Sino-French educational co-operation has been sensitively portrayed by Marianne Bastid, "Li Shizeng and Chinese non-proletarian internationalism," annual lecture for the Contemporary China Institute, School of Oriental and African Studies, University of London, 11 June 1984.

62. The logistics, particularly the French side of the operation, relating to the Institut Franco-chinois of Lyons are fascinatingly detailed in D. Bouchez, "Un défricheur méconnu des études extrême-orientales: Maurice Courant (1865-1935)," *Journal Asiatique*, Tome CCLXXI, Nos. 1-2 (1983), pp. 43-150.

63. *Zhongfa daxue banyuekan* (Bimonthly Journal of Université Franco-chinoise), Vol. 1, No. 1 (1925), p. 1.

64. *Zhongfa jiaoyu jie* (Sino-French Educational Circles), No. 1 (October 1926), pp. 1-4. Of course I am here simply reporting the views of these Chinese, not making a judgement on the relative strengths of American vs. French cultural imperialism!

admiration of the political achievements of its revolution and the republican values of *fraternité*, *égalité* and *liberté*. France's post-revolution institutions were naturally of great interest to Chinese scholars who saw the need to inculcate a spirit of republicanism and nationalism through modern educational institutions.⁶⁵

However, a certain contradiction inherent in the principle of nationalism was evident in these reflections. For China, nationalism was a modern phenomenon, yet national identity had to be built on the rich achievements of traditional Chinese scholarly culture. The Chinese did not forget that French thinkers such as Voltaire and Montesquieu, whose writings had sown seeds of revolution, in their turn had been inspired by progressive ideas from Chinese scholarly culture.⁶⁶ The cultural interaction between the two nations thus had deep roots, and China's indirect contribution to the French Revolution was not to be forgotten. Could France's post-revolution scholarly culture, in its turn, contribute to the shaping of a modern Chinese scholarly culture? The founders of Zhongfa University saw its aims in no less ambitious terms than these.

The institutions which laid the groundwork for the founding of the Sino-French University also dated back to the first year of the Chinese Republic, 1912, when Li Shizeng and others founded the *Liufa Jianxue Hui* (Society for Frugal Study in France). This was followed in 1915 by the establishment of the *Qingong Jianxue Hui* (Society for Hard Work and Frugal Study), which organized the coming of several thousands Chinese worker students to France, and in 1916 by the setting up of the *Huafa Jiaoyu Hui* (Société Franco-chinoise d'Education), which took a general leadership over the various Sino-French co-operative activities.⁶⁷ The latter organization was distinguished by the fact that each of its offices was filled by one French and one Chinese person, on the French side involving distinguished public figures such as Alphonse Aulard, Marius Montet and Edouard Herriot, and on the Chinese side headed by an equally illustrious group, including Cai Yuanpei, Wang Jingwei, Li Shizeng, Wu Yuzhang and Li Shengjiang.⁶⁸ This pattern of joint Sino-French leadership was to mark the organization of both the university in Beijing and the Institut in Lyons, but it was not to be without problems.⁶⁹

Zhongfa University. Zhongfa University was founded in 1920 through the initiative of an organizing committee composed of scholars from Beijing University, Guangdong University and the University of Lyons.

65. Marianne Bastid makes the point that Li Shizeng was clearly committed to internationalism, while Cai Yuanpei may have been more concerned about the need to indicate a spirit of nationalism, though he sought to avoid political or ideological misuse of the schooling system by the government. See footnote 61 for the source.

66. Li Shizeng, "Zhongfa jiaoyu wenti" ("Sino-French educational problems"), *Zhongfa daxue hanyuekan*, Vol. 1, No. 1 (1925), pp. 5-6.

67. The founding and development of all these activities are detailed in a contemporary account, *Lü ou jiaoyu yundong* (*The Educational Movement of the Sojourn in Europe*) (Paris: Shijieshe, Autumn 1916).

68. *Ibid.* p. 109.

69. It was to be a continuing struggle, with the French side determined only to finance activities under their control and the Chinese side equally determined to maintain the upper hand over Sino-French co-operative projects.

Originally it was envisaged as having two main centres in China – Guangzhou and Beijing – and one abroad.⁷⁰ The Cantonese part of the university began with a language school for preparing students for study in France, and proceeded with the establishment of a college of fine arts in 1924, but these were soon merged with Zhongshan University, which continued an active programme of sending young Chinese for studies at the Institut Franco-chinois of Lyons. This institution was actually independent yet closely associated with the university in Beijing, as was a similar yet smaller institute attached to the Université de Travail of Charleroi, Belgium.⁷¹ The university itself was in Beijing and had one campus in the city and several others in the western suburbs.

The significance of this new institution was expounded in the journal in terms of its aims, its administrative structure and the educational system followed. The central aim was dedication to scholarship, specifically to raising the standards of Chinese scholarship and popularizing scholarly knowledge by the introduction of the best of French scholarly culture.⁷² While the rector and all the other office-holders within the university were Chinese, the *comité de patronage* was composed of three French and five Chinese members and its honorary president was the French Ambassador to China. The *comité exécutif* had three French and eight Chinese members.⁷³ In spite of this strong French representation within the administration, very little French finance was available to support the institution,⁷⁴ giving the French little more than an honorary position. Even funds from Boxer indemnity payments owed to France which were turned to educational projects came late and were far lower than the sums available from American–Chinese educational co-operation.⁷⁵

In the educational system followed, there was a conscious and explicit intention to borrow from the strengths of the French university pattern, expressed in the fact that the university included all levels of education – primary and secondary as well as higher faculties or colleges (*xueyuan*) as they came to be called. While Zhongfa University could only emulate this spirit within its own limited facilities, which included four primary and

70. Li Shizeng, “Zhongfa daxue gaifang” (“The situation of Zhongfa University”), *Zhongfa daxue banyuekan*, Vol. 1, No. 1 (1925). This at least is how Li viewed its founding, and this first issue of the journal gives photos and a detailed account of each of the colleges in Beijing and the suburban areas in 1925. While the lower schools had been in operation for some time, and in many cases had opened as preparatory schools for young people going to France, the higher institutes apparently only began accepting students in 1925, and were registered with the Ministry of Education as a university in 1926.

71. “L’Université Franco-chinoise et les oeuvres scolaires Sino-Belges,” *Zhongfa jiaoyu jie*, No. 12 (January 1928), pp. 21–22. Jules Destrée, “La Chine et nous,” *Zhongfa jiaoyu jie*, No. 12 (January 1928), pp. 37–41.

72. *Zhongfa banyuekan*, Vol. 1, No. 1 (1925), p. 2.

73. *Université Franco-chinoise de Pékin* (Nan-che-pao, 1926).

74. Most of its property and buildings, valued at around U.S. \$430,000.00 in 1943, were already in place in 1925 before any Boxer indemnity funds were available, and had probably been purchased with funds donated from the Chinese community. For the value of the property, see Charles Grosbois, *Notes sur la Culture Française en Chine*, cyclostyled text, 1943.

75. Boxer indemnity funds only became available in 1926, and the allocation made to Zhongfa University in 1927 was U.S. \$75,000.00, one tenth of the yearly sum available to Qinghua. See Bouchez, “Maurice Courant,” p. 133.

secondary schools as well as four colleges, its leaders saw its role as a kind of catalyst introducing into China the French idea of the university.⁷⁶

Their dedication to this ideal and belief in its suitability to the needs of the Chinese Republic became evident when the new Nationalist government established itself in Nanjing in 1927 and legislation was passed for the reshaping of the whole education system along the lines of the French university district or *académie* pattern. As head of the *daxue yuan* (university council), Cai Yuanpei exercised jurisdiction over all levels of education throughout the country. He attempted to organize regional university districts, each headed by the rector of a reorganized regional university, who was responsible for all levels of education in the district. The Peiping district was to be headed by Li Shizeng, with Li Shuhua, rector of Zhongfa University, as his assistant. However, the experiments proved a complete failure and Cai resigned in 1928, leaving the Nationalist government to organize a more conventional ministry of education.⁷⁷

This failure can be explained in a number of ways, the most evident educational ones being the strong objections of universities such as Beida, which already had distinctive traditions of their own and were unwilling to relinquish them, and a different type of objection from lower level educationists, who did not regard it as a progressive step for their educational efforts to be placed under the jurisdiction of university scholars. While Napoleon's university had been modern in the sense that it had been a vehicle for inculcating nationalist loyalty and discipline throughout the country, by the mid-19th century French scholars had succeeded in gaining a scholarly jurisdiction over the university and ensuring its autonomy from the politicians, though not from the state itself.⁷⁸ Apparently it was this more traditional aspect of French scholarly culture which Cai and his Francophile supporters admired and wished to introduce to China, in order to protect the modern Chinese education system from political manipulation. Chinese educators at lower levels, however, may have been right in considering this form of scholarly domination, with its Confucian overtones, to be just as unacceptable as the political interference Cai wished to avert.⁷⁹

In spite of the failure to bring the French university spirit into the mainstream of Chinese life, Zhongfa University survived and the distribution of knowledge within its curriculum is of particular interest for this

76. Cai Yuanpei's reasons for regarding the French pattern of the university as suited to China's needs are expounded in two articles which appeared in *Xin Jiaoyu* (*The New Education*) in 1922: "Jiaoyu Duli Yi" ("The principle of educational autonomy") in Vol. 4, No. 3 (March 1922), pp. 317-19 and "Hunan Zixiu Daxue de jieshou yu shuoming" ("An introduction to and explication of the Hunan self-cultivation university") in Vol. 5, Nos. 1-2 (August 1922), pp. 81-89.

77. Allen Linden, "Politics and education in Nationalist China: the case of the university council 1927-1928," *Journal of Asian Studies*, Vol. 27, No. 4 (August 1968) pp. 763-76.

78. Prost, *L'Enseignement en France*, p. 199.

79. *Ibid.* p. 150. Prost describes the French university as *l'état enseignant*, which claimed the right to regulate all aspects of education not in subservience to successive governments but in loyalty to the higher moral and intellectual interests of the state, particularly to the values of liberty and truth. It is not difficult to understand the appeal of this ethos to Chinese scholars steeped in the best aspects of the Confucian tradition.

article. The curriculum of the four secondary schools with attached primary schools belonging to the university was very similar to the general academic curriculum widely followed in China at the time, with the exception of the teaching of French as a foreign language from the fourth year of primary school.⁸⁰ After six years of primary school and four years of secondary school, students wishing to enter the colleges had to follow two years of preparatory studies, divided into Lettres for entrance to Voltaire and Comte Colleges, and Sciences for entry into Curie or Lamarck Colleges.⁸¹ In 1926 there were reported to be 400 students at Comte (almost certainly including those at primary and secondary level), 200 at Voltaire College, 40 already sent to France by Lamarck College and more than 100 at Curie College.⁸² Comte College had a curriculum in 1926 which included three areas of emphasis: philosophy, psychology and economics. Each had both required and elective courses.⁸³ Voltaire College had two departments, one in Chinese literature and history, the other in French literature and history. In 1934 Nationalist policies suppressing the social sciences forced Comte to close down, and only its department of economics survived as a third department within Voltaire College.⁸⁴

Curie College had a fixed four-year curriculum with emphasis on basic courses in mathematics, physics and chemistry, also the teaching of French as a foreign language. In the fourth year a practical emphasis was added with pure and applied mechanics and industrial chemistry as well as physical and organic. An attached institute of pharmacy in Shanghai provided professional training in this field.⁸⁵ In addition, a research institute of radium was established in 1931 in association with the college, and it continued to operate into the late forties when it became a part of the Peiping Academy.⁸⁶

The ethos of Lamarck College may have been of greatest relevance to China's needs. Its curriculum covered the areas of botany, zoology, physiology, biochemistry, geology and mineralogy.⁸⁷ Theoretical courses

80. *Beijing zhongfa daxue kongde xueyuan ji Beijing kongde xuexiao gailan* (An Introduction to Comte College and Comte Secondary Schools, Beijing) (September 1926) provides details on the curriculum.

81. *Zhongfa jiaoyu jie*, No. 32 (1929) gives details of the university preparatory courses offered at that time.

82. M. Bastid, "Li Shizeng and Chinese non-proletarian internationalism." A detailed list of students and graduates published in 1934 in the *Sili Zhongfa daxue ji fushu gebu tongxuelu zongmu* (A General Index of the Students at Zhongfa University and Associated Institutions) (January 1934) lists 93 current students of Voltaire College, 29 of Curie College, 17 in Curie's department of biology and 48 in the medical preparatory school which Lamarck had become by that time, a total of 187. It also lists the names of 111 graduates of Voltaire College, 16 of Curie College, 69 of Lamarck College and 12 of Comte College, a total of 208 graduates up to that time.

83. *Beijing Zhongfa daxue kongde xueyuan ji Beijing kongde xuexiao gailan*, pp. 14–16.

84. *Zhongguo jiaoyu nianjian* (The Chinese Education Yearbook) (Shanghai: Commercial Press, 1948), p. 654.

85. This institute received favourable comment in the rather cynical account by Grosbois, *Notes sur la Culture Française en Chine*, p. 138. Of the 491 students at the university in 1947, 91 were reported to be at this institute. See *Zhongguo jiaoyu nianjian* (1948), p. 654.

86. *Zhongguo jiaoyu nianjian*, p. 654.

87. *Zhongfa jiaoyu jie*, No. 32 (January 1930), pp. 33–36.

in these areas were closely linked to applied research, most notably in agriculture with three experimental farms attached to the college for this purpose.⁸⁸ Medical courses were largely at the level of pre-medical training, but again were linked with practice in the two attached sanatoriums and with research in the Institut Materia Medica.

This overview of the higher curriculum suggests the patterns of the French faculties, with some modifications. The emphasis on agricultural research in association with the biological sciences was clearly designed to raise the prestige of agricultural studies and offer a direct service to China's development needs.⁸⁹ In this Zhongfa differed notably from Tongji and Qinghua where the agricultural sciences were neglected. As for the pure sciences, there was a clear intention to foster advances in scientific theory expressed in the emulation of Curie and Lamarck, and theoretical and applied fields were not isolated from one another. However, the traditional separation of disciplines across the four colleges did not facilitate the cross-fertilization of arts, social sciences and natural sciences. Furthermore, efforts to develop the social sciences in an open-ended way, drawing on French scholarship, were frustrated by Nationalist government policies.

In spite of evident aspirations for scholarly modernity, leaders of Zhongfa University were probably as deeply attached to the French university ethos as to that of the explicitly modern *grandes écoles*. This attraction may have been linked to persisting values from Chinese scholarly culture which were not easily relinquished and which, at times, were consciously revived in order to provide substance for the spirit of modern nationalism. In the next two sections the university journal and the Institut Franco-chinois of Lyons will be considered to see how far they, in their different ways, introduced to China progressive values from French scholarly culture.

L'Education Franco-chinoise (Zhongfa jiaoyu jie). Zhongfa's university journal was published under this title from 1 October 1926 to 31 September 1931 (Nos. 1-45). It initially included a balanced selection of articles in French and Chinese and gradually moved to the predominant use of the Chinese language. It had been preceded by a bi-monthly journal in 1925 and an occasional one in earlier years. From November 1931 to May 1937 it continued under the title of *La Revue de l'Université Franco-chinoise (Zhongfa daxue yuekan)*, now entirely in Chinese except for the occasional article in French by a Chinese contributor.⁹⁰

88. It is difficult to find out how far Lamarck students were actively involved in scientific activity or labour on the experimental farms as part of their formation.

89. Marianne Bastid links Li Shizeng's concern with the agricultural sciences and determination to promote them in China with his roots in a scholar-gentry intelligentsia that were still strongly attached to the land in the late 19th century.

90. All volumes of both journals as well as some of their precedents are to be found in the Bibliothèque Municipale in Lyons, as well as in the library of the Institute of Oriental Languages, Rue de Lille, Paris. The archives of the Institut Franco-chinois of Lyons are held in the Department of Chinese of the University of Lyons III. Also a valuable collection of materials from the library of the Institut is held in the Bibliothèque Municipale of Lyons. I am particularly grateful to Professor Danielle Li Lusheng of the Department of Chinese, University of Lyons III, and M. Jean-Louis Bouilly, librarian in charge of the Chinese

A general survey of the journal over these years indicates its potential for contributing to scholarly modernization. Numerous articles appeared on the life and ideas of such distinguished French scientists as Marcelin Berthelot, Edouard Belin, Jean Perrin and Paul Langevin, also more generally on the history of science and scientific ideas: an article on the scientific achievements of the early Greek philosophers, a history of the discovery of chemical elements which appeared in serial form over a whole year, articles explaining the theory of relativity and Einstein's view of the universe, culminating in the translation of some of Einstein's own articles in April of 1936. In addition to a small number of specialist articles, mainly in pure mathematics, interest was thus aroused more broadly in the generation of scientific ideas. Scientific knowledge was presented as an open tentative system rather than a fixed dogmatic one. The applied sciences also received considerable attention, including medical papers, articles on the development and use of asphalt, aluminium, electricity, and numerous articles on both scientific and social aspects of agricultural reform.

The social sciences were also an important component of the journal, and a concern for the development of scientific method in the social sciences is evident. A lengthy article giving a detailed introduction to the teaching and research facilities in the social sciences in French higher institutions was clearly intended to provide guidance to Chinese students who might be going to France to study. The author commented on what he regarded as the superiority of social theory in France over the empiricist approach common in the United States and Britain.⁹¹ Lengthy articles and even whole issues were devoted to introducing the ideas of social theorists such as Saint-Simon, Auguste Comte and Proudhon. One of France's distinguished contemporary social scientists who contributed regularly to the journal was Levy-Bruhl. His articles ranged from discussions on the social thought of Comte, Voltaire and Descartes, to contemporary French philosophy and specialist anthropological topics such as the primitive human spirit and mentality. Other articles in the social sciences covered economic theory, international relations and trade, comparative psychology and political science.

The general area of arts or letters also attracted numerous contributors, creating a balance among these three broad areas of knowledge. Philosophical articles expounded the life and ideas of thinkers such as Voltaire, Pascal and Kant, as well as many French literary figures. Numerous short stories of Alphonse Daudet, Maupassant and others appeared in Chinese translation. Also there were many articles on classical Chinese subjects, contributed by distinguished Chinese scholars including Zhang Taiyan and Chen Daqi.

In its own limited way, the journal thus introduced scientific ideas drawn largely from the French context, initiated reflection on issues of

collection at the Bibliothèque Municipale, for the assistance they gave me in consulting these materials when I visited Lyons in May 1984.

91. *Zhongfa jiaoyu jie*, No. 44 (June 1931), pp. 20-42.

scientific methodology in the social sciences, and encouraged a rich interplay between Chinese and French literary and philosophical culture. The extent of its influence is difficult to assess and could easily be exaggerated, but it may represent a more substantial scholarly interaction than has so far been possible between French and Chinese scholars in the post-1976 period. Its approach to knowledge was more integrated than that expressed in the curricular organization of the university, and its influence more general, arousing popular interest in the French approach to 'modern' knowledge.

L'Institut Franco-chinois. L'Institut Franco-chinois opened in 1921 in Lyons and operated more or less as a college providing residential and tutorial facilities to Chinese students who followed academic programmes in the faculties of the University of Lyons or in *grandes écoles* in the general region of Lyons. It aimed to promote, as far as its facilities allowed, the formation of Chinese students in all areas of French scholarship.⁹² One aspect of its ethos which found particular expression in its associated institute, the residence for Chinese students at the Université de Travail of Charleroi, Belgium, was the intention to integrate work and study, which drew inspiration from the work student movements that had preceded the establishment of these two institutes. Writing in the university journal in 1925, Li Shizeng expounded in very specific terms the need to uproot reactionary Confucian values by uniting theory with practice, labour with learning, an ethos which the Labour University at Charleroi, as well as France's engineering sciences, embodied.⁹³

The institute was administered by an *association universitaire* Franco-chinoise, with six Chinese and six French members on it. The president of this association was French and was responsible for liaison with French officials in the national bureaucracy and in the University of Lyons. However, the director of the institute was to be Chinese, as was the staff he appointed. Its finances came from several sources, a small amount of support from the Chinese and French governments, some from the Canton provincial government and other provincial governments, some from Zhongfa University in Beijing, and from 1926 a small part of the French Boxer indemnity funds. The story of its financial struggles and the scaling down of the project from one intended to support 2,000 Chinese students to one able to sustain a mere 100 students at a time is fully detailed elsewhere.⁹⁴

What is of central interest to this article is the curricular emphasis of the Chinese students sponsored by the institute. What kinds of knowledge were valued, and what sort of balance among different areas of knowledge was achieved over the whole period? A recently collated list of every student involved in the institute, drawn from its archives in Lyons, provides the answer. Between 1921 and 1946 a total of 473 students were

92. *Li'ang Zhongfa daxue guanli xuesheng chengjiang* (*Regulations for the Management of Students at Zhongfa University, Lyons*) (Lyons, April 1928). This document is among the archival material at University of Lyons III.

93. *Zhongfa daxue banyuekan*, Vol. 1, No. 3 (1925), pp. 20–23.

94. Bouchez, "Maurice Courant."

registered, and of these 138 (28 per cent) followed programmes in the applied sciences, 122 (26 per cent) in the pure sciences, 122 (26 per cent) in the arts and 89 (19 per cent) in the social sciences, mainly law, political science and commerce.⁹⁵

The following more detailed breakdown from the years 1926 to 1936 is compiled from the meticulous yearly reports sent back to Beijing and published in the university journal. It is of particular interest to note the growing role of the *grandes écoles* in accepting students for both applied natural and social sciences, as these were institutions whose ethos was specially relevant to the task of modernization. The relative strength of pure sciences, also law and letters, is of significance in the contrast it presents to the American Boxer indemnity principle of 80 per cent support to the applied sciences, 20 per cent to the social sciences.

Table: Curricular Emphasis of Chinese Students at the Institut Franco-chinois 1926-36⁹⁶

Year	<i>Grandes Ecoles</i>			<i>University Faculties</i>			<i>Other</i>	<i>Total</i>
	Applied Sciences	Social Sciences	Fine Arts	Pure Sciences	Medicine	Law	Letters	
1926-27	13	—	6	31	5	10	15	92
1927-28	13	1	4	34	4	12	16	91
1928-29	15	1	4	33	9	10	19	113
1929-30	22	9	5	27	9	13	16	110
1930-31	27	5	6	28	9	14	16	114
1931-32	17	7	6	25	7	12	16	107
1932-33	14	5	7	22	7	14	17	96
1933-34	13	6	9	20	8	21	18	110
1934-35	11	4	5	15	9	13	20	82
1935-36	14	7	4	16	10	12	11	76

What did these Chinese students do on their return to China? An account appearing in the first issue *L'Education Franco-chinoise* in 1926 gives an interesting profile of the first five groups who had gone to study in Lyons from Zhongfa University in Beijing. In 1923, six graduated from *grandes écoles* and three from faculties of the university, in 1924 eight from *grandes écoles* and five from faculties of the university, and in 1925 ten from *grandes écoles* and twenty from university faculties. Of the 33

95. Li Lusheng, "1921-1946 nian li'ang zhongfa daxue haiwaibu tongxuelu" (A list of students in the overseas section of the Université Franco-chinoise at Lyons between 1921 and 1946"), *Ouhua xuebao* (*Journal of the Association of Chinese Scholars in Europe*), No. 1 (May 1983), pp. 127-50.

96. These figures were taken from the following issues of the journal: *Zhongfa jiaoyu jie*, No. 5 (1926-27), No. 11 (1927-28), No. 22 (1928-29), No. 34 (1929-30), No. 38 (1930-31), No. 45 (1931-32); *Zhongfa daxue yuekan*, Vol. 1, No. 4 (1932-33), Vol. 3, No. 1 (1933-34), Vol. 7, No. 2 (1934-35), Vol. 8, No. 4 (1935-36).

who had already returned to China by 1926, seventeen became teachers mostly within higher education, five took up medical practice, eight were working as engineers in industry, two in journalism and one in banking.⁹⁷ The only later such report available, made in 1930, accounted for eighty-four returned scholars from France, forty-five in higher teaching, four as directors or administrators of hospitals and thirty-five holding posts in the Chinese bureaucracy or in international organizations.⁹⁸

Conclusion

New values about scholarly knowledge and how it should be ordered and distributed were clearly brought back into China's modern system of higher education by these French-educated young people. While it is not easily possible to make an empirical assessment of this, given the chaotic conditions of both the anti-Japanese and the civil wars, some reflections on the appropriateness of this exposure to French higher education patterns for the task of transforming Chinese scholarly culture are possible. Unlike either the German two-track tradition, in which humanistic universities held higher prestige than technical ones, or the American integrated university which combined pure and applied fields of study, the French had reversed the order of the two tracks. Higher prestige belonged to the *grandes écoles*, which were to produce a new style of bureaucrat and teacher with a scientific outlook and expertise in the applied social and natural sciences needed for modernization tasks.

In a country such as China, where the weight of humanistic scholarly culture was so enormous and the tendency to appeal to authoritative classical texts so deeply ingrained, perhaps this sort of revolutionary solution was called for. In an interesting parallel to the French abolition of the universities in 1793, Mao Zedong more or less abolished China's university system by unleashing the Cultural Revolution in 1966. In its place he called for colleges of science and engineering such as the revolutionized Tongji and Qinghua to hold pre-eminence within a new type of higher education. The failure of the Cultural Revolution to produce a modern Chinese scholarly culture on the basis of these institutions does not necessarily invalidate the correctness of Mao's judgement on the need to uproot Confucian values that had been re-embodyed in the academic patterns of the fifties. The future of Chinese science, even more than technology, may depend upon success in creating a new-style higher institution whose curriculum and administrative structure break free from bureaucratic academicism and allow for the creative interaction of pure and applied sciences as well as active involvement in the world scientific community.

What about the social sciences? Their transformation into an open, tentative and experimental area of knowledge has been an almost intractable problem in a country where classical texts had always been their authoritative basis. With the adoption of Marxism-Leninism as the

97. *Zhongfa jiaoyu jie*, No. 1 (October 1926), pp. 16-18.

98. *Zhongfa jiaoyu jie*, No. 34 (August 1930), pp. 58-52.

guiding ideology, and the demonstration of its effectiveness in the liberation struggle, the danger of Marxist-Leninist texts replacing Confucian ones without any fundamental change in scholarly attitudes has been evident. Mao's encouragement of Red Guards to launch an all-out attack on this form of authoritarianism unfortunately resulted in the emergence of an even more primitive reliance on the authority of pure Maoist texts.⁹⁹

In spite of these problems, the Chinese have not easily been able to cede their superiority in this sphere. The 19th-century formula *Chinese learning as the substance, western techniques for their usefulness* can be seen right up to the present in China's policy of sending large numbers of students to the West to study applied fields of the natural sciences, fewer in the pure sciences and very few indeed to "survey and study" areas of the social sciences.¹⁰⁰ A recent spurt in the number sent in applied fields of the social sciences, most notably management studies, may betray confidence that certain social techniques, such as those related to the manipulation of quantitative data, can be mastered and transferred to China without the substance of Chinese social theory coming into question. British and American traditions of empiricism and positivism could affirm the Chinese in this self-deception, while the French tendency towards self-conscious and explicit theorizing, noted by Chinese scholars in the thirties, might counteract it. The development of a critical approach to social theory, so essential a foundation to a modern Chinese social science, might be served by exposure to French scholarship.

The success of Tongji and Qinghua illustrates the relative ease with which one aspect of Chinese scholarly modernization – the raising of the prestige of the applied sciences – has been achieved. This bodes well for contemporary projects of scholarly co-operation with the West, where the applied sciences are once again the focus of attention. But certain questions might be raised relating to other aspects of scholarly modernization. What provision is being made for the formation of pure scientists able to contribute to advances in basic scientific theory and so ensure a truly interdependent Chinese science and technology? And is the transfer of social techniques such as is now going on in the management sciences based on the same mentality as the favouring of technology over science? There is a need for comparative research on the educational processes of the various Sino-western co-operative projects in the management sciences.¹⁰¹ How far are management techniques contextualized within

99. This theme is explored in a fascinating way from a Chinese perspective in "Academic freedom and political democracy: a discussion on academic research sponsored by the *Beijing Guangming Daily*," *Eastern Horizon*, Vol. XVIII, No. 1 (1979), pp. 6–14.

100. "Sixth Five-Year Plan," *Beijing Review*, No. 22 (30 May 1983), p. 11. See also R. Hayhoe, "A comparative analysis of Chinese-western academic exchange," *Comparative Education*, Vol. 20, No. 1 (March 1984), pp. 39–56.

101. For information on American, Canadian and German management education programmes, see William Fischer, "The management center in Dalian," *China Exchange News*, Vol. 11, No. 2 (June 1983), pp. 12–14, *Canada-China Management News* (Ottawa: International Development Office, Association of Universities and Colleges of Canada), Nos. 1, 2, 3, and *Xinhua News Agency* (London, 22 August 1984), p. 28.

the social theories from which they are derived and to what extent is a critical approach to these theories encouraged?

In light of these issues, the experiment in Sino-French educational co-operation detailed above, limited as it was in size and scope, exemplifies a balance in the way in which 'modern' knowledge was transferred from the French to the Chinese context. Adequate emphasis was placed on pure as well as applied sciences, and these were offset by considerable provision for letters, law and social sciences which constituted a critical context for the western techniques desired for instrumental purposes.

There may be certain parallels in the contemporary French approach to educational co-operation with China, where once again there is a conscious attempt to provide an integrated and balanced milieu for the transfer of knowledge. In 1980 the French Ministry of Foreign Affairs entered into an agreement with Wuhan University for the placement of 15–17 French scientists, mathematicians, literary scholars and teachers of French language within several mainstream departments of the university. The focus of their work was not the preparation of Chinese students for study in France, as in the case of German collaboration with Tongji University where Chinese students are prepared for higher study in Germany, but rather a broad presentation of French scientific and literary culture through participation in teaching and research within the university itself. While the ideal may not have worked out in practice as well as other co-operative projects, it demonstrates a sensitivity to some of the fundamental issues of knowledge transfer and the modernization of scholarship which is not so obvious elsewhere.¹⁰²

I may now have gone too far in extolling aspects of the French approach to educational co-operation with China, in light of the demonstrable weakness of both historical contemporary projects. Yet weakness sometimes masks strengths which deserve attention. It therefore seemed excusable to give this article an obvious bias in the exploration of a little-known piece of Sino-French educational history, and from that position of bias to reflect broadly and comparatively on the problematic of a western contribution to the modernization of China's scholarly culture.

102. For a French view, see Jean-Luc Domenach, "Sino-French relations: a French view," in Hsüeh Chun-tu, *China's Foreign Relations* (New York: Praeger, 1982), pp. 96–97.