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## COMMENTARY

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# Patriotism Is Not Enough: Chinese Intellectuals And The Knowledge Economy

*This paper examines the changing appeal of patriotism and nationalism in the civic consciousness of Chinese intellectuals shaped by the notion of a global knowledge economy. It investigates the career aspirations of scientists and IT professionals returning from overseas study in the US and argues that the famous motto of intellectuals during the 1980s – “Science does not have national boundaries but I (the scientist) have the nationality”, is losing its appeal. Scientists and IT professionals are acknowledged as knowledge-workers and are valued in nation building. At the same time they have the freedom to not return home by virtue of a global demand for their services and attractive skilled-migrant schemes in a number of western countries. In examining recent policy changes by the Chinese government to recruit scholars of Chinese origin studying and working overseas, the paper discusses the Chinese government’s response to the “brain drain” and how it has sought measures to ensure growth in its national knowledge capital.*

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China’s socialist leadership has long embraced a fascination with science and technology. Newspeak from the Politburo proclaims the future of information technology. Political propaganda and market hype come together to promote the benefits of the new technological revolution. A journey from Beijing’s Capital airport to the city centre leaves visitors in no doubt that the “e-age” (e-shidai), if not immediately evident in the throng of traffic and traders, is an auspicious omen. The technological revolution promises a broadband cable backbone dispensing the fruits of the knowledge economy to a nation emerging from dependence on heavy industry and agriculture. Techno-utopia displaces the dawn of communism in futures analysis. People will be liberated from the drudgery of menial

labour and they will be re-educated and learn to love the Net. They will have almost unlimited choice of multi-channel television programming but no choice in deciding who is the government.

It is well documented that the upgrading of technological infrastructure is linked to national "informatization" plans and China's eventual integration into the global economy post-WTO accession (Keller 2000; Ure and Liang 2000; APEC 2001; Lovelock 1999; Liu 1997; Li 1995; Tan 1995). The technological upgrading is founded on emergence of knowledge as the structural basis of power, a scenario in which its privatisation contributes to national competitiveness and integration within the global economy.

Foreign direct investment (FDI), along with technology transfer, is a key ingredient in China's informatization projects. In particular, the task of enabling technology transfer has become central to the relationship between the Chinese government and its intellectuals. During the 1980s – the early years of the reforms in China – it was widely believed that obsolescent technology was a prime reason why China lagged behind the West (Wall and Yin 1997: 169). China looked to the success of the newly industrialized countries (NICs) such as Taiwan, Singapore, Malaysia, who had drawn on the Japanese development model of government intervention and the copying of technology development in government-sponsored incubators (see Matthews 1999). It was established that China started from a lower base: it needed to invest substantially in its education and training of highly skilled personnel. Of the so-called four modernizations (agriculture, national defence, industry, science and technology), science and technology has most concerned the national leadership. In order to leapfrog into the information age, a number of technology enhancement programmes and policies were put in place.

China is well on the way to constructing its own National Information Infrastructure (NII) with a view to being a global player in IT and knowledge-based industries (KBI). China's IT industry is ranked the fourth largest in the world according to the Ministry of Information Industry (Qu 2000). However, the size of this sector is perhaps misleading and these claims need to be taken in context. Most of China's increased IT export capacity has been due to assembling processes that are not technology or skill intensive, such as the processing of components in township and village enterprises (Wall and Yin 1997: 181). Further, China lacks the mix of entrepreneurship and technical knowledge that is evident in industry clusters such as Silicon Valley, despite the Chinese emigrant presence in the Valley and the "overseas Chinese" networks of investment. While Chinese universities have identified knowledge-based industries as the key to growth, very few intellectuals in institutions and universities understand

business operations.

The minister responsible for China's Information Industry (MII), Wu Jichuan, has been quick to talk up the advances in information and communication technologies. In a speech at the International Telecommunications Union (ITU) Asia Forum in December 2000, he emphasised the steps China was taking to develop an information infrastructure and the benefits of liberalisation for China's trading partners. However, China's attempt to leapfrog over several generations of technological development and move itself into the ranks of high technology nations exploiting value-added services, faces a more immediate problem: many of the best young minds reside overseas. This is a crucial point. Even if we accept the capacity of Chinese people to move mountains, as Mao's favourite fable from the time of the Great Leap Forward suggested, it is not just a case of "constructing" an information infrastructure or a knowledge society. There is more at stake. What is required, and what China's leaders have desired for decades, is to raise the country from backwardness to prosperity. This means raising the quality (*suzhi*) of the population.

Central to the issue of quality improvement is the vision of a global "knowledge economy" in which China can participate with confidence and national pride. The knowledge economy is currently at the core of national development strategies in China and draws upon a vision of enhanced quality, technological capacity and innovation. A number of major studies of the benefits and challenges of the knowledge economy have been published in China in recent years (Gan 1998; He 1999; Zhou 1999; Cui 1999; Wu 1998; Jin 1999). One of the main contentions is that Chinese society is well placed to take advantage of the knowledge economy, being traditionally a networked society (that is, if one discounts the attempts of the Communist government to organise organic networks into politicised bureaucracies). The knowledge economy, if allowed to develop, can therefore be "rewired" on to the traditional network society of China.

The optimism inherent in this vision is tempered by the fact that China has a large population of unskilled workers and a relatively small pool of knowledge workers. As government sponsored information technology initiatives in the U.K, Europe, Singapore and Malaysia have demonstrated, the promotion of knowledge-based applications and the development of the economy have a number of points of intersection. At the core of technological development is the role of the intellectual.

The Chinese "intellectual", in contrast to the European concept of people with superior intellectual ability and refined tastes, has

## Chinese Intellectuals: Home And Away

a much broader demographic sweep. Literally, the term “intellectual” (*zhishi fenzi*), means a person who possesses knowledge. According to the Chinese encyclopaedia, *Ci hai* (1989: 1953), *zhishi fenzi*, is defined as: “Mental workers with specific cultural and scientific knowledge, such as science and technology workers, art workers, teachers, doctors, editors, and journalists.”

This Marxist understanding asserts that intellectuals came into being due to the appearance of surplus products and class division in society. However, it further maintains that intellectuals are not a separate class; rather they belong to different classes. And the link is clearly made between intellectuals and their public duty. During the Chinese revolution, intellectuals were often in the vanguard and served as a bridge between the Chinese Communist Party and the masses. According to the Marxist version of historical materialism, when productive forces and the scientific and cultural levels of the population have substantially increased – sometime in the future, intellectuals will no longer exist as the difference between physical work and mental work will be eliminated.

Meanwhile, intellectuals are identified as having a role in serving the people, a role that has been handed to them by their “paymasters”, the Chinese state. This relationship of mutual dependence is somewhat problematical, as is the association with patriotism (*aiguo zhuyi*). The problematical part of the association of intellectuals and patriotism is that there have been many celebrated accounts of “heroic” dissidents who stood up against the repressive state apparatus and championed the rights of free expression. Those critical of the state machinery have subsequently found cause to proclaim their political stance as stemming from a patriotic spirit, a need “to save the country”. The Tiananmen Square protests of May/June 1989 were a time when students and intellectuals took a stand to demonstrate against corruption and inflation. This was celebrated by the student leadership and many observers as a patriotic act and a return of the May Fourth Spirit – although it is still officially condemned by China’s leadership as an unpatriotic disturbance.

The patriotic tradition goes back a long way, with many intellectuals posthumously being accorded the status of warriors who died in battle. Over 2000 years ago the poet Qu Yuan clasped a big stone to his breast and leapt into the River Miluo in frustration at being unable to do anything to save his state. The fifth day of the fifth month of the lunar calendar is celebrated as the Day of Dragon Boat Festival to commemorate his drowning. Intellectuals who made sacrifices for their country, and for the Chinese “people” (*renmin*), are thus honoured as heroic role models in the best tradition of socialist hagiography. In the 20th century the

relationship between intellectuals and the nation was recorded in glorious prose. The most cited examples of patriotic sentiment were the May Fourth Movement (May 4, 1919) when students protested the ceding of German territory in Shandong Province to the Japanese following the signing of the Versailles Treaty.

The most salient point for our discussion of intellectuals and patriotism, however, concerns the great numbers of students who have studied overseas and returned home with knowledge to contribute to nation-building - by participating in the May Fourth ethos, the Communist Revolution, and more recently the reforms of the past two decades. The idea of studying in the West has long been a means to an end for many young Chinese. While many have not returned from their studies over the years, the majority have contributed to the nation's stock of technical and more recently business knowledge. Returning home to China did not necessarily entail a better life. Many intellectuals suffered from the policies of the Maoist era in which returning intellectuals were ranked lower than workers, soldiers and peasants (*gong-nong-bing*).

During the so-called revolutionary period when the Chinese Communist Party gained ascendancy over the Nationalists (the Guomindang), the long-standing relationship between the nation and intellectuals was redefined as selfless devotion and loyalty to the communist cause. As early as the 1940s Mao Zedong demanded that the role of the writer was to be a "cog and screw in the revolutionary machinery" (Wagner 1987: 192). During the early 1960s intensive ideological education was directed at officers and soldiers, as well as intellectuals and workers. They were expected to "learn from Lei Feng", the PLA hero lionised by Chairman Mao. Lei Feng described himself as a "screw that never rusts - sticking to the place where the Party assigned me to" (Lei Feng: 2001). His view of the pursuit of personal interests was 'as autumn wind sweeping away fallen leaves', a reference to the ephemeral nature of individualism. People were subsequently regarded as raw material. They were denied the right to express feelings or personal aspirations. From this perspective it is understandable that when educational exchange with the West restarted in 1972 after the hiatus of the Cultural Revolution, those students or scholars who did not return from abroad were accused of "defecting" (*panguo*) (Zweig and Chen 1995:19). Likewise, scholars who did return would claim that they did so because they loved their nation, as the famous motto of returned scholars in the 1980s goes, "science does not have national boundaries but I (the scientist) have the nationality".

The problem of a skilled workforce had begun to become

apparent about the same time that China implemented its four modernizations policy following the demise of Chairman Mao's anointed successor, Hua Guofeng, in 1978. Beginning in 1979 the Chinese government, acting under the architect of reform Deng Xiaoping, realised that a shortage of highly skilled personnel was hampering its ambition to catch up with Western science and technology. It decided for the first time since 1949 to send large numbers of students and scholars to the West to study (Zweig and Chen 1995). However, sending the best and brightest scholars abroad to gain the benefits of technology had the undesirable effect of triggering a serious brain drain. The Ministry of Education estimates that since the Reform in 1978, over 320,000 Chinese scholars have studied overseas and just above 110,000 have returned (Chen 2001:1). In 2000, of the total of 514,723 overseas university students in the U.S.A, 54,466 (over 10.5%) were from Mainland China, ranked the highest among all countries (He 2001: 3). Between 1990 and 1996, the number of doctorates in science and engineering granted annually by U.S. universities to students originally from China more than tripled (from 477 to 1,680). China was ranked highest among all countries other than the US.

At the University of California at Berkeley, for example, the proportion of students from Mainland China who were granted graduate degrees in science and technology by the University of California at Berkeley increased dramatically between 1980 and 1997. By the mid-1990s, over half of the degrees (53%) were granted to students from China, compared to only 10% in the early 1980s and 35% in the late 1980s and early 1990s. The number of graduate degrees granted can be seen as a leading indicator of labour supply in Silicon Valley, as most graduates find jobs in the region's technology companies (Saxenian 1999: 7).

In order to solve the problem of technology deficiency, China initiated the "Torch Program" in the mid-1980s (see Wall and Yin 1997). The program was aimed at commercialising high-tech research and development achievements and providing industrial bases for high-tech industries and experimental sites for structural reform of China's innovation system (ATIP 95-88: Developing Science Parks in Asia: 15). Under this program China has established 52 New-High-Tech Development Zones (NHTZs) at the national level and roughly the same number of NHTZs at the local level. These 52 national hi-tech development zones are scattered in 27 provinces, autonomous regions and municipalities directly under the Central Government. They are also known as science and technology industrial parks, which enjoy preferential treatment in relation to their operations. They are accorded special import and export privileges to allow them to attract raw materials and equipment; they are able to acquire loans from special

investment banks, and given preferential taxation benefits.

The science parks have attracted much foreign and domestic investments, hosted tens of thousands of firms and created thousands of millionaires. However, these achievements need to be examined in context. A large proportion of the firms are involved in real estate or trading businesses, rather than creative research and development of new technology that is central in other industry clusters such as Silicon Valley. The first and most successful science park in China, Zhongguancun, located in Beijing, for example, has claimed to be the Chinese Silicon Valley. However, it differs dramatically from Silicon Valley in that it functions much like a “mixture of modern electronic products assembling and Chinese traditional country fair trade” (Yu 2001). For this reason Zhongguancun is often considered as an “incubator for millionaires”, but not an “incubator for high and new technology”.

In recent years there has been a shift towards attracting personnel to these new industries. This is the recognition that technological advancement is not simply about information technology but about knowledge. Moreover, it is about the idea that knowledge is not simply about the diffusion or transfer of codified technological knowledge, it is also about tacit knowledge, that is the uncodified skills and techniques that are acquired experientially by demonstration and through people working in creative environments, best exemplified by knowledge-based industrial clusters (David 1997: 22).

## Incentive Programs: Promises Or Problems?

The shift in emphasis from technological infrastructure towards personnel is fundamental to concepts such as the knowledge economy. The difference between an information economy and knowledge economy might appear on the surface to be semantic but the point is that knowledge entails a knower whereas information appears as something independent or self contained (Seeley-Brown & Duguid 2000: 120). A knowledge economy or knowledge society therefore represents a shift towards people, more particularly people with skills, and people who are creators and carriers of knowledge. The term “knowledge economy” is therefore central to development strategies. It is increasingly used to describe the sector of national economies engaged in the production and distribution of services and commodities that draw upon people’s intellectual capital.

The role of human capital in knowledge production is vital for China. There is a belief among many in China’s government that China might have a competitive advantage in software development and knowledge-based applications due to its

relatively advanced higher education system, where much emphasis is placed on mathematics. This is also a counter to this optimism, one that says that China has not been able to produce innovative research. It is more of an adopter than an innovator. Despite the great inventions celebrated in Chinese history, technical innovations during the 20th century have flowed from the North to the South. Much of this has to do with the critical mass of research and investment in countries such as the US. This has been aided by both the presence of technology clusters surrounding US universities such as Stanford University and University of California Berkeley, and the culture of innovation generated in such incubators (Kenney and Von Burg 2000). Added to this is the fact that these areas attract the skills of immigrant entrepreneurs and PhD candidates, many of the latter category seeking to use their intellectual capital to “purchase” a green card.

Reversing the brain drain began to be seen as an economic and social solution following Deng Xiaoping’s famous “trip to the south” (*nan xun*) in 1992, the catalyst for a more liberal climate in China (Zweig and Chen 1995: 22). It also resulted in a more liberal policy towards Chinese scholars overseas, which on paper, allowed students and scholars to come and go freely (*laiqu ziyou*) (Zweig and Chen 1995: 23). This has formed the basis of the current government guiding principle (*fangzhen*) towards studying overseas, being “supporting studying overseas, encouraging returning, coming and going freely” (*zhichi liuxue, guli huiguo, lai qu ziyou*).

Intellectuals, in making their decisions as to whether they should stay in the Western countries they were studying in, or return to China, began to take into consideration their personal needs and interests. Patriotism is now no longer a sole determinant. Zweig and Chen (1995) for example interviewed 273 Chinese students, scholars, and other former residents of China residing in the US in 1993. They found that “higher social status in China” (26.0%) and “better career opportunities in China” (20.5%) were the two most common considerations for returning home. Patriotism (17.3%) occupied third place. By the late 1990s incentive programs were shifted towards attracting highly skilled personnel back. China realised that its developing industries were not necessarily producing highly qualified personnel. It was felt that if highly qualified personnel living abroad could be attracted to return, they would bring back not only knowledge but also investment and new industry expertise. In May 1998 the then fourth wealthiest man in Asia, the Hong Kong media tycoon, Li Ka-Shing, expressed an intention to Chen Zhili, the Minister of Education to provide scholarships for students. Chen suggested to Li Ka-Shing that these funds should be used to attract highly

qualified personnel from overseas (Li 2001). This became the now famous Changjiang Scholars program (*Changjiang xuezhe jiangli jihua* - also known as the Chueng Kong Scholars Program).

In 1998, the Ministry of Education began the Changjiang Scholars Program, spending US\$ 15 million annually on returnees who will be employed by selected universities as specially employed professors. It adopts a "Post Allowance" strategy by which universities apply for posts that are qualified to employ Specially Employed Professor (SEP). Those nominated posts and SEPs are examined and reviewed by specialists of appropriate fields (mostly academics of the Chinese Academy of Sciences). These are then approved by the Examination Committee, which consists of well-known domestic and overseas scholars. In the first term Li Ka-Shing invested 60 million RMB (about US\$7.25m; US\$1=RMB 8.27) and the Ministry of Education allocated an equivalent amount in order to provide grants for the Specially Employed Professors. Selected SEPs not only receive normal salary, but also additional 100,000 RMB p.a. for three years. Most significantly, these SEPs are given professional autonomy over research projects: that is they are allowed to develop their own projects and head up a team of researchers. Apart from receiving a higher salary than ordinary professors, recipients are also provided with a free three-bedroom apartment and a start-up research allowance of 2 million yuan, equivalent to over US \$240,000 (Chang 2001; Normile 2000).

Li Ka-Shing also invested 10 million RMB and established a "Changjiang Scholars Achievement Award". This granted the first prize recipient 1 million RMB and the second place recipient 0.5 million RMB. These are significant financial incentives. One of the requirements of SEPs is that those selected must remain in their posts for a minimum of two years. This condition immediately created a problem. Although 100,000 RMB is a high salary by Chinese standards, it is by no means an attractive lure to high-skilled scholars working overseas. Few scholars of renown would pass up a much higher salary in Western countries to apply for an SEP post in China. The result is that despite the Changjiang Scholars Programme being originally aimed at recruiting scholars from overseas, most of those applying and being selected as SEPs are scholars who had already returned some years ago. In order to rectify this problem, when the Program entered its third term in 2000 another category of Guest Professors was established. This allows selected scholars to work in China for three to six months. So far the Changjiang Scholars Program has operated for three terms. Altogether 307 SEPs and guest professors have been selected, of which only 95 are recruited directly from overseas (Chang 2001).

In addition to the Changjiang Scholars Program, China has implemented a number of other incentive programs, including the Spring Sunlight Programme (*Chun hui jihua*), the Programme for Training Best Qualified Personnel for the New Millennium (*Kua shiji youxiu rencai peiyang jihua*), the One Hundred People Programme (*Bai ren jihua*), the Millions of Qualified Personnel Project (*Bai qian wan rencai gongcheng*).

Money is not the only incentive. Chen Zhili, the Minister of Education cited the experience of returnees in her New Year speech to overseas-educated Chinese scholars. These returnees testified that establishing and developing homeland careers gives a higher sense of achievement (Chen 2001). It seems that incentive plus patriotism is the package that the Chinese government is offering to attract overseas-educated Chinese scholars back. If they cannot return to China, they are asked to be patriotic and “serve China” from distance by establishing networks and business interests. They are also encouraged to stay in China temporarily to deliver lectures. The Chinese government has put in place a campaign to attract back Chinese scholars residing overseas permanently. Initiated in 1997, this was called the Spring Sunlight Programme (*Chun hui jihua*). The program clearly states that funds are to be primarily granted to those Chinese scholars overseas who have obtained doctoral qualifications and have made remarkable academic achievements, including those who have obtained foreign permanent residency. This is despite the Chinese citizenship laws, which on paper do not allow recognition and repatriation support of those who have obtained permanent residency abroad (*hua qiao*). This program ostensibly provides funds to bring back successful entrepreneurs from Silicon Valley to conduct lecture tours. This occurred in 1998 when 15 Chinese PhDs from the Valley returned and were feted as Chinese “success stories”. Local provincial governments also contribute to such schemes.

These incentive programs focus more on attracting traditional scientists and scholars to work in universities and state-owned research centres than supporting IT professionals and software engineers to work in private companies. It should also be noted that the intellectuals that are encouraged under these schemes are mainly science and technology personnel. This excludes critical intellectuals. As Song Defu, the head of Personnel Ministry of China, has put it, in order to face the challenge of the global knowledge economy, China needs a large population of high-level personnel who master advanced technology, and who are familiar with international political economy and international regulations, and who understand the operations of the market economy (Wang 2000: 3). Most plans to attract scholars back are therefore oriented

## Conclusion: Better Life For All

towards high technology fields. One programme, the Programme for Training Best Qualified Personnel for the New Millennium (*Kua shiji youxiu rencai peiyang jihua*), does grant awards to scholars working within social sciences, but one of the requirements of training the selected applicants is that the foremost emphasis must be placed upon improving their knowledge of philosophy, that is Marxism-Leninism, Mao Zedong Thought and Deng Xiaoping Thought.

The idea of attracting highly skilled personnel back to China is fundamental to a vision of a society fuelled by “new economy” logic. However, the new economy/ knowledge economy conjuncture incorporates more than just reversing the “brain drain”: it means using intellectual capital to generate economic capital. This entails a paradigm shift from knowledge as a “public good” to a private good (see Myletka 2000: 41). The latter conceptualisation provides the basis of R&D, and the development of Intellectual Property Rights such as patents, copyrights and trademarks. China’s attempt to catch up and even to “leapfrog” into the information age includes building “national champions” that can compete with globally dominant transnationals such as Microsoft, Hewlett-Packard and Sun Microsystems, all of which grew out of the Silicon Valley environment of incubators, start-ups and venture capital, and all of which reap profit through innovation and highly-skilled workforces (see Nolan 2001).

Much has been learnt about the new global economy from the West. Unfortunately, odds are stacked against China being a major player, despite having the seventh largest world economy in terms of GDP (Howkins 2001). According to Nolan (2001), while China has nurtured strong “home brands” such as Legend Computer and Huawei, it does not have the R& D capacity to make its IT sector globally competitive post-WTO accession. Furthermore, the problem with the returned scholar programs – a key to enabling R&D - is that so far they have failed to attract the category of intellectual most required for China’s new information and communication technology sector. As mentioned above, Chinese computer engineers and software developers stand to make more money in the West than they would in China. If they do return to China they often work for Western firms such as Microsoft.

Enabling synergies between information technology, creativity, and innovation – now widely understood as the essence of the new economy (Howkins 2001; Leadbetter 1999, Brown and Duguid 2000; Cairncross 1997)- is an important step in China’s revitalising its education system and producing more IP-

generating knowledge-based service industries. However, while creativity and innovation are taken as the blueprints for the future by many senior technocrats, their implementation within the social structure will inevitably take more time due to their widespread lack of recognition within the education system. Meanwhile, there are positive signs emerging in China's cities. Central and local governments are looking towards fast-tracking developments in new creative industries that function as regional multimedia incubators in modern cosmopolitan cities: for instance, in megacities such as New York, London, and Tokyo, as well as in medium population density cities such as Helsinki, Toronto, Singapore, Sheffield and Glasgow (see Porter 1998; Braczyk et al 1999). The cosmopolitan leverage of "creative clusters" is becoming evident in China today. This urban renewal is reflected in plans to make China's cities more dynamic, more creative, and ultimately more attractive to foreign investment. The rationale is that by attracting technology transfer and investment this will increase the performance capacity and efficiency of Chinese industries.

In order to achieve a balance between infrastructure and innovation, China - like Malaysia and Singapore — has begun to realize the need for creative content and the need to provide Chinese language software that resonates with consumer demand. A dozen major Chinese cities, including Beijing, Shanghai, Shenyang and Chongqing have enacted a series of regulations and launched a number of new projects to promote "cultural commercialisation" (China Daily Nov. 27, 2000). Much of this infrastructure is well developed in the major urban centres. In Beijing plans are underway to build an international "media avenue" in the Xuanwu District featuring industries involved in journalism, publishing, film and television, and Internet as well as being a location for conventions and exhibitions ([http://english.peopledaily.com.cn/200110/24/eng20011024\\_83041.html](http://english.peopledaily.com.cn/200110/24/eng20011024_83041.html) (4.11.01)).

Municipal governments in Tianjin and Shanghai have developed key projects based around the concept of "information ports" in which broadband inter-district networks facilitate the development of application systems and cable TV networks (Asiainfo Daily News, Jan 18, 2001). The Singapore companies Creative Technology and Dragon Land have collaborated in a US\$100 million investment to create a Creative Dragon Park in Qingdao (Shandong Province). The Chinese government and the local Shandong government have offered special incentives to companies from the US, Taiwan, Malaysia and Singapore to locate in the park (Straits Times 21 Oct. 2000). Plans are also in train to set up a university campus within the park. According to reports "The intention is to create an environment in which knowledge-driven

companies with high value-added activities can thrive” <http://www.dragonland.com.sg/biztimes.htm> (5.11.01).

One of the common features of successful new multimedia precincts is that they foster an open and cosmopolitan lifestyle that in turn encourages innovation by connecting participants with intellectual knowledge and ideas generated outside of the local environment. The competition between the national capital Beijing (accorded the honour of staging the 2008 Olympics) and Shanghai (positioning itself as the cultural centre of China), provides evidence of the “death of distance” by which innovative and ambitious cities compete to fulfil the local requirements of global markets (Porter 2000; Cairncross 1997, Hall and Pfeiffer 2000). Recently the Zhonguancun Science and Technology Park, located near Beijing University and China’s leading IT university, Qinghua University, was allowed to put in place 13 new regulations pertaining to its management, following a suggestion by the vice premier of the State Council that Park officials might like to experiment with organization models that would promote entrepreneurial activity and attract “talented people”.

The implications for social governance need to be noted. China’s high-technology intellectuals now are accorded a place in the vanguard of the new revolution. They receive preferential treatment. The government assists them financially to develop new projects with the hope that they will mentor a new generation of IT professionals. If they can’t return to China, they are asked to be patriotic and serve China from a distance by establishing networks and business interests. They are a new super class of nerds. As opposed to critical intellectuals such as writers and dissidents, the techno-elite class are trusted as sons and daughters of China who need a creative environment to think and to develop.

Integration into the global economy through WTO accession is not just a means to restore national pride. It is a necessary step, a final part of the economic reform package that the regime hopes will deliver long-term social and economic benefits despite short-term pain. It remains to be seen how liberalisations and new organizational models that are put in place to accommodate China’s transition into the global knowledge economy are incorporated into the wider society. The bottom line is that a more relaxed form of social governance is the pay-off for those deemed to be the bearers of the technological dream. For the broad masses of people with less to offer the country the special benefits are likely to be withheld until communism is just a little closer to realization.

## NOTES:

1. See *Financial Times Information*, Dec. 18, 2000.
2. For instance the value of copyright industries in the U.S. in 1997 was America's number one export, worth US\$414 billion (Howkins 2001).

## REFERENCES

- APEC (2001). 'The New Economy and APEC', *China case studies*, <http://www.apecsec.org.sg/> (5.11.01).
- ATIP 95-88: *Developing Science Parks in Asia*: p15. <http://www.atip.or.jp/public/atip.reports.95/atip95.88r.html> (5.11.01)
- Braczyk, Hans-Joachim, Fuchs, Gerhard and Wolf, Hans-Georg (1999) *Multimedia and Regional Economic Restructuring*, Routledge, London.
- Brown, John Seely, and Duguid, Paul (2000) *The Social Life of Information*, Harvard Business School Press, Massachusetts.
- Cairncross, F. (1997). *The Death of Distance: How the Communications Revolution Will Change Our Lives*, Orion, London.
- Chang Jiang (2001). *Creative System, Attracting Qualified Personnel: A Review of 'Chuang Kong Scholars Programme' Promoted by the Education Ministry* (chuangxin jizhi, yanlan rencai: jiaoyubu 'changjiang xuezhe jiangli jihua' zongshu) 23 June 2001. <http://www.cksp.edu.cn/gb/chisa/chisa42.htm> (5.11.01)
- Chen, Zhili (2001). "New millennium speech", in *China Scholars Abroad* (Shenzhou xueren), no. 131: 1.
- Ci Hai (1989). Shanghai, Shanghai Dictionary Publishing House.
- David, Paul, A. (1997). "Rethinking technology transfers: incentives, institutions and knowledge-based industrial development", in Charles Feinstein, Christopher Howe (eds) *Chinese Technology Transfer in the 1990s : Current Experience, Historical Problems, and International Perspectives*, Edgar Elgar Press, Cheltenham.
- Eichelberger, Jon and Allen (2000) "A legal perspective: the impact of WTO on foreign investment in China's internet/E-commerce sector", Internet Law and Policy Forum, San Francisco, California, 11-12 September, 2000.
- Gan, Dean. (1998) *Creativity of Knowledge Economy*, Wuhan: Huanzhong (Central China) University of Science and Technology. 1998.
- Goldman, Merle; Cheek, Timothy; and Hamrin C. Lee (eds) (1987) *China's Intellectuals and the State: In Search of a New Relationship*, The Council on East Asian Studies/Harvard University, Cambridge, Massachusetts.
- Hall, Peter, and Pfeiffer, Ulrich (2000) *Urban Future 21: A Global Agenda for 21<sup>st</sup> Century Cities*, E & FN Spon, London.
- He Feng (2001). "Wishes in the early spring" (Zaochun de zhufu), *China Scholars Abroad*, no. 131: 3
- He, Yuchang. (1999) *Knowledge is Power: the Emerging Knowledge Economy*, Guangzhou: Guangdong Tourism Publisher.
- Howkins, John (2001) *The Creative Economy: How People Make Money From Ideas*, Penguin Books, London.
- Jin Wulun (1999) *Informatisation and the Knowledge Economy*, Beijing:

- Chinese Academy of Social Science.
- Keller, Perry** (2000). "China's impact on the Global Information Society", in Christopher T. Marsden, ed. *Regulating the Global Information Society*, Routledge, London.
- Kenney, Martin and Von Burg, Urs** (2000). "Institutions and economies: creating Silicon Valley", in Martin Kenney, *Understanding Silicon Valley: The Anatomy of an Entrepreneurial Region*, Stanford University Press, Stanford.
- Leadbeater, Charles** (1999). *Living on Thin Air: The New Economy*, London, Penguin.
- Lei Feng** (2001), "Diaries of Lei Feng" (Lei Feng Rijì) <http://ileifeng.top263.net/riji.htm> <http://ileifeng.top263.net/riji.htm> (5.11.01)
- Li, Haiji** (2001). *Li Jiacheng (Li Ka-Shing) and Chueng Kong Scholars Programme* <http://www.cksp.edu.cn/gb/chisa/chisa32.htm>. (5.11.01)
- Li, Zhennan** (1995) *Information Superhighway*, Electronic Industry Press, Beijing.
- Liu Zhenyu** (1997). "China's information superhighway: its goal, architecture and problems, *Electronic Markets*, vol. 7, no. 4: 45-50. See <http://www.electronicmarkets.ch> (5.11.01)
- Lovelock, Peter** (1999) "E-China: Putting business on the Internet", *Virtual China Information Technology Section*, <http://www.virtualchina.com/infotech/analysis/> (15.6.01)
- Matthews, John A.** (1999) *Encouraging Knowledge-Intensive Industries: What Australia Can Draw from the Industrial Upgrading Experiences of Taiwan and Singapore*, Report Commissioned by the Australian Business Foundation.
- Mytelka, Lynn K** (2000). "Knowledge and structural power in the international political economy", in Thomas C. Lawton, James N. Rosenau, and Amy C. Verdun (eds) *Strange Power: Shaping the Parameters of International Relations and International Political Economy*, Ashgate Publishing Ltd, Aldershot: 39-57.
- Nolan, Peter** (2001) *China and the Global Economy*, New York: Palgrave.
- Normile, Dennis** (2000). "New incentives lure Chinese talent back home", *Science*, vol. 297: 417-418.
- Porter, Michael** (1998). "Clusters and the new economics of competition", *Harvard Business Review*, Nov/Dec: 77-90.
- Porter, Michael** (2000). *The Competitive Advantage of Nations*, Macmillan, London.
- Qu Weizhi** (2000). "The IT industry is a strategic industry that promotes the adjustment of China's economic structure" 23 August 2000, cited in Zhao Yuezhi and Dan Schiller (2001) 'Dances with Wolves: China's integration into digital capitalism', *Info*, vol. 3, no. 2, April: 137-151
- Saxenian, AnnaLee** (1999). *Silicon Valley's New Immigrant Entrepreneurs*, June 1999, <http://www.ppic.org/publications/PPIC120/PPIC120.PDF/ppic120.ch2.html> (28.6.01)
- Saxenian, AnnaLee** (2001). *Silicon Valley's New Immigrant Entrepreneurs* <http://avchat.sina.com/business/chat/18/frame.cgi> (28.6.01)
- Seeley-Brown, John, and Duguid, Paul** (2000). *The Social Life of Information*, Harvard Business School Press, Harvard.
- Tan, Zixiang** (1995) "China's information superhighway: What is it and who controls it?", *Telecommunications Policy*, no. 19: 721-773.

- Ure, John, and Liang, Xiong-Jian** (2000). "Convergence and China's National Information Infrastructure", in M. Hukill, R. Ono, and C. Vallath (eds) *Electronic Communication Convergence: Policy Challenges in Asia*, Sage, New Delhi: 115-148.
- Wagner, Rudolf G.** (1987). "The Chinese Writer in His Own Mirror: Writer, State, and Society – The Literary Evidence", in Merle Goldman, Timothy Cheek and Carol Lee Hamrin (ed.) *China's Intellectuals and the State: In Search of a New Relationship*, Cambridge (Massachusetts): The Council on East Asian Studies/Harvard University, 1987.
- Wall, David and Yin, Xiangshuo** (1997). "Technology development and export performance: is China a frog or a goose?", in Charles Feinstein and Christopher Howe (eds) *Chinese technology transfer in the 1990's : current experience, historical problems, and international perspectives*, Edgar Elgar Press, Cheltenham.
- Wang, Huanxian** (2000) "Making more efforts to welcome returning scholars: Song Defu, Minister of Personnel Ministry of China, talking about overseas scholars returning to work" *China Scholars Overseas (shenzhou xueren)*, no. 9, 2000: 3-4.
- Wu Lisong** (1998) *The Knowledge Economy*, Beijing: Beijing Technology Publishing.
- Yu, Zuyao** (2001) *Zhongguancun Needs a Change Right Now* (Zhongguancun zhuan xing dai he shi?), 20 February 2001.
- Zhou, Xiaoliang.** (1999) *Competition in the New Millennium: Searching for System Structures of Knowledge Economy*. Guangzhou: Guangdong Tourism Publisher.
- Zweig, David and Chen, Changui** (1995) *China's Brain Drain to the United States: Views of Overseas Chinese Students and Scholars in the 1990s*. Berkeley, California: Institute of East Asian Studies, University of California, Berkeley.

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