The Internet in China: Data and Issues

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Working Paper Prepared for
Annenberg Research Seminar on International Communication

October 1, 2003

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This chapter introduces Internet development in the People's Republic of China (PRC): its diffusion, context, and institutional settings; its economic, political, and cultural components; its relationship with national and global actors; and its implications for the theorization of network societies around the globe.[1] To a comparative end, the case of China is invaluable because, besides its obvious significance, Chinese business networks, as part of the dynamic East Asian economy, "have adapted more rapidly than other areas of the world to the new technologies and to the new forms of global competition" (Castells, 1996:173). Most importantly, the continuing power of the Chinese Communist Party (CCP), juxtaposed with high growth rates in economic and technological sectors, calls into question many existing conceptions of technology-society relations formulated in the western context of late capitalism. Is there a network society in China, as seen from the prism of China's Internet? If so, what is peculiar about this particular set of network formations – in its components, internal structure, and relationship with the external environment? I would take an inductive approach to explore these questions.

The Spirits of Chinese Informationalism

Unlike Mao's experiments in creating a new social system, China's "information revolution" since early 1990s has been discursively less flamboyant. On September 20, 1987, Professor Qian Tianbai sent the first email from China.[2] But the event had been ignored and its slogan-like message – "Beyond the Great Wall, Joining the World (*yueguo changcheng, zouxiang shijie*)" – remained unpublicized until after 1994 when Beijing was awestruck by Al Gore's speech on "Building the Information Superhighway." Yet China was not far behind in the hi-tech domain. It established the first TCP/IP-capable academic network, the National Computing and Networking Facility of China (NCFC), in April 1994[3] and opened the first public Internet service, ChinaNet, in January 1995.[4] These were more efforts of emulation than homegrown innovation though: the World Bank provided partial funding for NCFC; a foreign telecom firm, Sprint, operated the first international channels of both NCFC and ChinaNet.[5] Actors of globalization were instrumental to the genesis of the new technology in the PRC.

Since 1995, China's Internet has been developing in leaps and bounds, demonstrating potentials for the country to become a world leader in Internet industry. According to China Internet

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[1] The following discussions are informed by my research on China's Internet since 1996 that involves document analysis, participant observation, personal interview, focus group, and survey methods, all of which served as the basis of my doctoral dissertation inspired and informed by research strategies of the Metamorphosis Project at Annenberg School for Communication, University of Southern California. Especially helpful were four months of fieldwork in the provinces of Guangdong and Sichuan during summer 2002, the involvement as moderator of China Internet Research eGroup since 2000, and the experience as boardmaster for a popular university BBS in Shanghai during 1998-1999. Also essential is the conference "China and the Internet: Technology, Economy, and Society in Transition" held by USC Annenberg School in Los Angeles, May 30-31, 2003, which I co-organized with Prof. Peter Yu (Michigan State University), that exposed me to a wide range of empirical projects on the subject.

[2] "Evolution of Internet in China," China Internet Network Information Center (CNNIC). Available: http://www.cnnic.net.cn/evolution.shtml. The message was sent to to Karlsruhe University of former Western Germany.

[3] Qian Tianbai, "The Development of Internet in China (*Internet zai zhongguo de fazhan*)," Beijing: Computer World (*jishuanji shijie*). June 17, 1996, pp. 131-133.

[4] "China Logs On to the Internet." *The Economist.* January 7, 1995. p. 27.

[5] "Evolution of Internet in China," CNNIC.

Network Information Center (CNNIC),[6] the number of Internet users in China has been almost tripling every year from less than 40,000 in 1995 to 59.1 million in June 2003.[7] By the end of 2002, there were more than 20.8 million online computers, 371,600 registered www websites, and a total international connection capacity of 9380 megabytes directly linking up China with countries such as the U.S., Canada, Australia, Britain, Germany, France, Japan, and Korea. Despite problems regarding official statistics,[8] there has been little dispute on the extraordinary rapidity of Internet growth in the country. Although China's huge population suggests that the scale of technology diffusion remains quite limited, the speed of development is most remarkable given that, when ChinaNet first opened its business in 1995, the country had less than 5 telephone sets per hundred population, comparable only to the U.S. teledensity level in 1905;[9] and that China's Internet boom appeared to be little affected by the worldwide IT industry slow-down at the turn of the century.

What account for the swift taking-off? While the dissemination of western technologies was a key element from the very beginning, the explanatory power of a diffusion model has significantly declined as the Internet materializes into a centerpiece of China's New Economy and societal transformations. More causes are therefore to be sought in the peculiar socio-historical context of the country – from state policies to commercial rationale, from *guanxi* and family networks to the emergence of grassroots identities, to the competition of modernity projects, be it communist or capitalist, nationalist or globalist, and the alternative social movements being incurred – these all shape and become constituents of what might be called "informationalism with Chinese characteristics."

One thematic concern constantly accompanying the question of Internet, which underlies most discourse on technology and globalization in the PRC, is a strong sense of humiliation for the atrocities inflicted upon the nation since the Opium War. Particularly important is the memory of China being the most technologically advanced nation on the planet,[10] yet it fell from the throne and suffered tremendously. As a result, restoring China's technical supremacy and thereby reviving the Middle Kingdom has been a constant goal for Chinese leaders since Sun Yat-sen, who gave up his presidency of the Republic of China to become the Minister of Railways out of a belief in the power of technology. The appeal of techno-nationalism greatly intensified after the communist take-over in 1949 when fanatic modernization projects such as the Great Leap Forward were implemented emphasizing technology and engineering sectors. Of these attempts, many were too idealist, poorly planned, and followed by disastrous consequences.[11] But the PRC did manage to become a nuclear power in 1964 and successfully launched its first satellite in 1970.

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[6] Available at: http://www.cnnic.net.cn. CNNIC is the organization authorized by the State Council to provide official statistics about the development of Internet in China.

[7] This is the world's third largest Internet population, tailing the United States (165.2 million, NetRatings, May 2002) and Japan (61.1 million, NetRatings, August 2002). Including Chinese Internet users in Hong Kong, Taiwan, Singapore, and the global Chinese diaspora, the total number was estimated to be 68.4 million by April 2002 (available: http://glreach.com/globstats/).

[8] See discussions on sampling problems prior to 2000 in Peter Weigang Lu, (2000). "Internet Development in China: An analysis of the CNNIC survey report." *Virtual China*. http://www.virtualchina.com/infotech/analysis. See also CIIC, 2001. "How Many Internet Users Are There in China?" http://www.china.org.cn/english/2001/Feb/7235.htm, for different definitions of Internet users in China.

[9] *Annual Report on the Development of Telecommunications* (1995), China Ministry of Information Industry; *Historical Statistics of the United States: From colonial times to 1970*, U.S. Department of Commerce, Bureau of the Census.

[10] Needham (1981).

[11] Yang (1998); Shapiro (2001).

In a similar way that Maoist cadres aspired to emulate Soviet industrial statism, Chinese officials since the 1990s were fully engaged in building a Chinese information society.[12] Proponents of China's Internet often quote former President Jiang Zemin, also a former Minister of Electronic Industry, saying that "Each of the Four Modernizations (of agriculture, industry, education, and the military) has to depend on informatization."[13] While addressing the Sixteenth National Congress of CCP, Jiang also emphasized the need to "prioritize information industry, and widely apply information technologies in economic and social domains."[14] Unlike the miserable failure of Mao's Great Leap Forward, this informatization campaign centered on the Internet has been largely successful by measures of growth indicators, sustainability (at least so far), and the capacity of the Chinese state to boost the New Economy via investment, purchase, assistance in R&D, and the acquisition of foreign capital, as will be discussed more adequately in the following. On a comparative note, this is in line with the developmental state model practiced in Japan and East Asian "tiger" economies for decades (Johnson, 1982; 1995; Castells, 1996: 172-190). However, China's advantage as a latecomer, its enormous market potential, and relative independence from the capitalist world-system enabled it to limit the damage of the Asian Financial Crisis as well as the global downturn in hi-tech industries.

Historical legacies and state sponsorship being the same, China's Internet would still have developed very differently had it occurred in the 1980s before Tiananmen, before the collapse of the Soviet Union in 1991 and Deng Xiaoping's call for all-out marketization in 1992 (Baum, 1994:119-368). The overlapping aftermath of these three interconnected events led to a fundamental paradox that characterizes contemporary Chinese society in general and the social construction of the Internet in particular: the state agencies take new technologies as means to improve people's living standards but not citizen participation, to reap economic benefits while sustaining and reinforcing political status quo. I shall discuss issues of censorship and regulation later in this chapter. For the current purpose, it is important to point out that the endeavor to cast computer networks primarily in the economic domain,[15] while a post-hoc reaction of Chinese authorities to countless social, economic, and political challenges they have to face, is now on the way to becoming a major point of reference for the configuration of national information infrastructures in authoritarian countries worldwide (Kalathil and Boas, 2003).

That the party-state attempts to construct the new technology as an entirely economic instrument, however, is an incomplete characterization that entails three caveats, each discounting the popular oversimplification from a different angle, adding to the complexity of Chinese informationalism. First, to what extent the economic benefits of the Internet can be utilized to stabilize current social structure? This is especially problematic due to the uneven pattern of Internet diffusion in China and the lack of attention to issues of information inequality until very recently (Qiu, 2002; Harwit, 2003; Giese, 2003). Second, despite its apparent unity, the Chinese state indeed harbors multiple interest groups with competing and conflicting goals and rationales, and all of them vie for dominance in China's cyberspace. It is also not infrequent that the officials, especially at the level of local state, would form networks of "bureaucratic entrepreneurs" (Hsing, 1998) with

[12] Hachigian (2001).
[13] i.e. "*sige xiandaihua, nayihua yelibukai xinxihua.*" See more of Jiang's writing about the central role of informatization in his prologue for the book *Exploration and Practice for Informatization in China*, Qili Hu (ed.), (2001), Beijing: Publishing House of Electronics Industry.
[14] Xinhua News Agency, November 17th, 2002.
[15] This is not to deny national efforts of e-government and multiple local experimentations on e-democracy, which however are still mainly constructed to strengthen CCP and the state instead of empower the disenfranchised.

members of the business community, including IT industry leaders,[16] from within and outside Mainland China. Hence it is difficult, if not impossible, to operationally define the boundary between politics and economy in the many localities, particularly in the coastal regions of Guangdong, Fujian, and Shanghai where trans-border commercial activities has been concentrated.

Finally and most importantly, the role of grassroots user networks should in no way be ignored because their everyday activities not only ensure the continuation of China's Internet but also embody personal experiences that transform the new technology from an abstract cyber-space to meaningful places of social significance. User networks at the grassroots constitute the most innovative source of change in China's virtual landscape, forming a least predictable dimension imbued with tremendous potentials of liberalization that we are just beginning to understand. The great multitude of grassroots formations such as Web-based nationalist movements, hacker alliance, youth culture, gay and lesbian groups, and dissident use of the Internet – via diverse channels like chatrooms, online gaming, peer-to-peer technologies, and so on – have given rise to a fascinating kaleidoscope for the examination of the intricate interplay among a myriad of social forces in the networks of Chinese netizens, whose impact goes far beyond the online communities and beyond the borders of the People's Republic *per se*.

Access, Demographics, and Problems of Diffusion

Who are using the Internet in China? How do they connect to the Web, for what purposes, and how are Internet resources distributed throughout the country? Before reviewing the demography and geography of China's Internet, it is imperative to bear in mind that access to ICT is socially shaped (Dutton, 1999) and therefore reflects fundamental structures of a given society. In the case of China, Internet access is largely limited to relatively affluent social groups in urban and urbanizing areas, especially those with high demand for information and entertainment. The remarkable Internet boom within a limited social scope is certainly a result of state-led telecom reform since 1993, characterized by the replacement of a national monopoly with a structure of semi-privatized and privatized oligopolies (Mueller and Tan, 1997; Harwit, 1998; Yan and Pitt, 2002). The reform aimed at increasing market competition and enhancing the ability of domestic telecom firms to face the challenge of China's accession to the WTO (Horsley, 2001a; 2001b). Whereas the strategy was useful in driving down prices and improving service quality, telecom firms also tend to shun away from the most deprived regions and populations. It was not until the second half of 2002 when reportedly the Ministry of Information Industry (MII) and Ministry of Finance started to discuss the establishment of a Telecom Universal Service Fund, which would be collected from major telecom companies to address the equality issue in rural and inland areas.[17] The implementation and effects of this new measure, especially on Internet diffusion, remain to be seen.

[16] Personal interviews with local officials and IT entrepreneurs.

[17] Yuqi Liu, "Universal Service Fund Emerging, Equal Effective Competition Stressed (*dianxin pubianfuwu jijin chutai, yushi gongpinyouxiao jinzhengcheng jianguanzhongdian*)," Beijing: *Telecommunication Information* (tongxinxinxibao). February 19, 2003. p. 1.

Table 1. Demographical comparison: Internet users vis-à-vis average Chinese

	Average monthly income (US $)	Percentage with college education	Percentage male	Percentage no older than thirty
October 1997	116	--*	88	71
July 1998	177	--*	93	76
January 1999	152	70	86	79
July 1999	183	85	85	78
January 2000	221	84	79	78
July 2000	211	86	75	78
January 2001	176	89	70	75
July 2001	146	63	61	68
January 2002	158	60	60	68
July 2002	133	58	61	70
January 2003	134	57	59	72
Figures for average Chinese (2000)	*84*	*3.6*	*51*	*51*

Sources: *CNNIC Survey Reports on China's Internet Development* (October 1997 – January 2003); *China Statistical Yearbook (2000),* China National Bureau of Statistics.
* Data not available

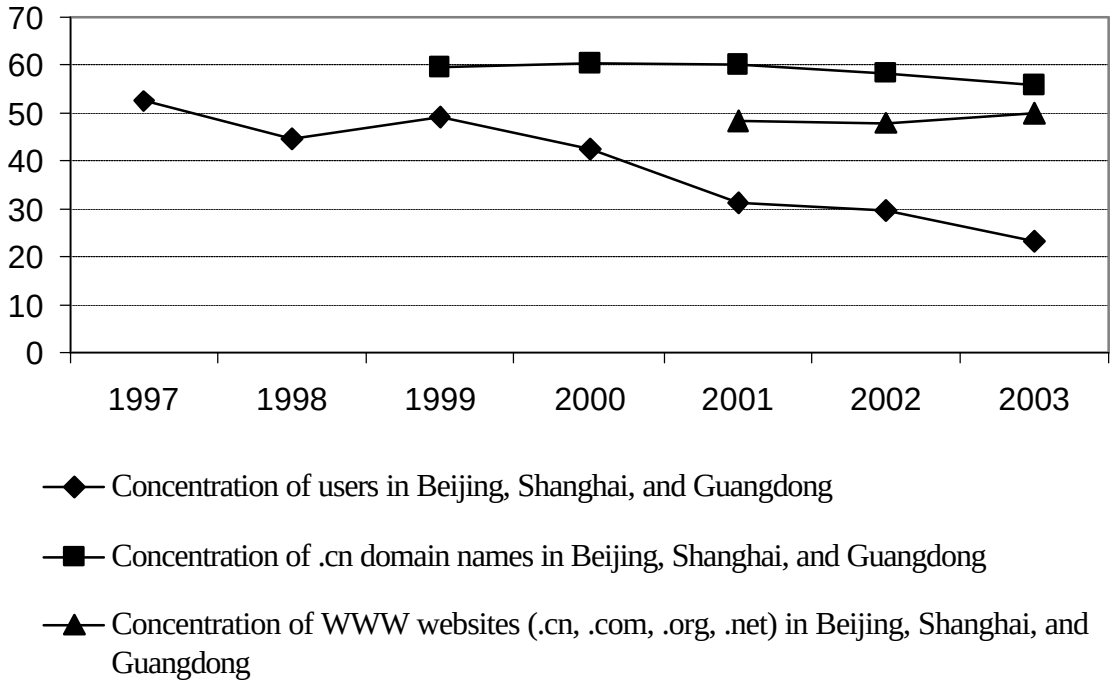
Impressive as it is, the 59 million Internet users in Mainland China by the end of 2002 accounts for only 4.5 % of China's 1.3 billion population. The highly limited scope of dispersion is illustrated in Table 1 that summarizes CNNIC user profiles since 1997 as compared to average Chinese. Remarkable are demographic gaps along all four basic dimensions of income, education, gender, and age. Unsurprisingly, Internet users tend to be wealthy, educated, young males, with the most prominent disparity being education attainment. While a mere 3.6% of the total population has gone to college, the percentage for college-educated users is 57% or higher, indicating the critical importance of literacy and technical know-how. The user population is also predominantly young with 72% being no older than thirty and 28% being students according to the CNNIC report of January 2003, which shows that the current user group very much represents the future of China.

In the meantime, income discrepancy has been gradually decreasing since 2000, but it still holds at a significant level with Internet users being at least 60% more wealthy than an average Chinese.[18] The most noteworthy change towards equality is the narrowing-down of gender discrepancy.[19] Yet, according to a study by Wei Bu (2003), although gender gap is decreasing, females still tend to spend less time online, having narrower scope of goals, and holding more negative evaluation for the overall social influence of the Internet. In another word, whereas more Chinese women have recently gained Internet access, they still lag behind in terms of their "connectedness" to the new technology (Jung, Qiu, and Kim, 2001).

[18] This in part has to do with a change in CNNIC's survey instrument in since 2001.
[19] Although Chinese users were overwhelmingly male at one point (e.g. 93% in July 1998), the male proportion has been declining continuously to 59% in January 2003, i.e. only 8% higher than the national average of 51 males per 100 populations.

Also notable is the uneven spatial distribution of Internet resources. While the rich coastal regions have 21% of China's land and 40% of its population, they are home to more than 60% Chinese Internet users and more than 80% of ".cn" domain names (Qiu, 2002a:165-169). Most disproportionate concentration is found in the urban centers of Beijing, Shanghai, and Guangdong Province, which collectively have mere 2% of China's land mass and 8% of the population, but account for 23% of users and more than half of the country's domain names and www websites as of January 2003 (see Figure 1). Although the concentration of users in the core region of these three urban centers has declined from its peak of 52% in 1997 to 20% in 2003, the concentration of online content providers in the areas has remained little changed. The increasing degree of regional disparity correlated with the sophistication level of technology is found to apply to not only the Internet but also other communication resources such as mass media, landline and cellular phone subscriptions (ibid). The regional discrepancy is also parallel to a deep urban-rural split: while 69% of China's population holds rural residency,[20] only 1% of Chinese Internet users work in "agriculture, forestry, husbandry, and fishery."[21]

Figure 1 The concentration of Internet resources in the core region of Beijing, Shanghai, and Guangdong Province



Source: *CNNIC Survey Reports on China's Internet Development* (October 1997 – January 2003);

According to the CNNIC January 2003 report, the general categories of "seeking information" and "entertainment" are the two most important goals for going online in China. The most frequently used online services are email (92.6%), search engine (68.3%), chat (45.4%), and

[20] *China Statistics Yearbook* (2000).
[21] CNNIC Report (January, 2003).

uploading/downloading software (45.3%). Among the online information accessed, 81% are in Chinese and 71% are domestic. These findings were largely replicated in an independent survey conducted by the Chinese Academy of Social Sciences (Guo, 2003), which found that users spent 80% of their online time viewing domestic websites, 13% time browsing Chinese websites outside China, and 6% time reading foreign language content on web sites outside the country.

Home access is the most popular way of going online, accounting for 63% of all users, followed by access from office (43%), school (20%), and Internet café (20%).[22] Although broadband and wireless services have started to gain momentum in diffusion, it was the Internet café that showed most robust growth: while only 3% of users accessed the Net from cybercafés in January 1999, the figure surged to 21% in January 2001. Since then the percentage dropped to 15% and 17% most probably due to restrictive state policies particularly after the fire in a Beijing cybercafé that killed 25 people in June 2002.[23] Yet CNNIC still reported that 20% users visit Internet café in January 2003. While the official survey findings are to be taken with a critical eye, my fieldwork in south, west, and central China suggested plausibility of continued cybercafé diffusion despite the national crackdown. Restraining state measures indeed devastated many small private Internet cafés in metropolitan areas, but the effects seem to be limited on large netbar chain stores with support from local authorities or underground operations outside urban centers. The tendency is particularly notable that Internet cafés are proliferating in satellite towns surrounding big cities, where costs are low and regulations loosely enforced. Urban youngsters often transport in groups to these locations for online gaming, chatting, and the experience of a new youth subculture, while businesspersons and migrant workers can also be found seeking job-related information on the Net.

Internet and the Developmental State: Endogenous and Exogenous Conditions

Convinced that Internet is essential to China's economic modernization, the Chinese party-state has played a critical role in promoting and diffusing the new technology. Since 1992, major efforts have been made from the "Golden Projects" to "Government Online,"[24] from ministerial reshuffles to utilizing foreign capital,[25] all for the purpose of building an advanced national information infrastructure. Government spending on the Internet has been quickly escalating. The State Council Informatization Steering Group (SCISC) was established in 1996 that included representatives from telecom regulators, key national economic planning commissions, and the People's Bank of China.[26] With mostly state investments and a combination of private funds, foreign loans, and venture capital, China's fiber optic network had been expanded from 286,000 kilometers in 1995 to 1.25 million kilometers in 2000, forming a web of "eight horizontals and eight verticals (*bahengbazong*)" that covers the country from east to west and from north to south.[27]

Few would doubt that Beijing, in most of its economic policymaking, is emulating the developmental state model identified by Johnson (1982, 1995) and defined by Castells in the East Asian context as a governance structure whose legitimacy resides in "its ability to promote and

[22] Ibid.
[23] "All Beijing Internet cafes closed for rectification to guarantee safety," Xinhua News Agency, June 16, 2002.
[24] Harwit (1998); Fries (2000:121-157).
[25] For major institutional reshuffles see Mueller and Tan (1997), Tan (1999), Yan and Pitt (2002:91-115). For aspects of foreign investment, see Zhao (2002), Zhao and Schiller (2001), Yan and Pitt (2002:150-156).
[26] *Telecommunications World* (*tongxin shijie*). "State Council Decision to Establish Informatization Steering Group (guowuyuan jianli xinxihua gongzuo lingdao xiaozu jiasu xinxihua jincheng de zhongyao juece)," July 1996. p. 4.
[27] See "Statistical Report for the Development of Telecommunications in China (2001)." China Ministry of Information Industry. Available: http://www.mii.gov.cn/mii/hyzw/2001tongjigongbao.htm.

sustain development, understanding by development the combination of steady high rates of economic growth and structural change in the productive system" (1998:276). In the specific domain of the Internet, much as industrialization processes in neighboring East Asian "tigers" in previous decades, the Chinese enthusiasm in informatization has to be understood as resulting from "the politics of survival" (ibid, p. 278) and explicit efforts to rebuild the nation via the acquisition of technological excellence. The beginning years of the 1990s were probably the most difficult time for Chinese leaders in the post-Mao era given the conservative backlash following Tiananmen, continual problems in the state-owned sector, a plunge in international trade and foreign investment due to US-led sanctions, and most importantly, the collapse of the Soviet Union that foreclosed lingering imagination of another world-system. Although in 1992 Deng Xiaoping issued a rallying call in his famous Southern Tour Speeches, confirming to the nation and the world the continuation of China's reform and opening-up policy (Baum, 1994:341-368), the rhetoric was yet to be materialized. It was therefore anything but a coincident that Beijing officials would be mesmerized by the hype of the Information Superhighway, whose Chinese version, if realized, was believed to induce sustainable development, strengthen national pride, and integrate China with the global economy.

The success story of building Internet infrastructure in China should, however, be told cautiously. Aside from uneven diffusion of the technology, swift achievements in network construction since mid-1990s are not a result from pro-Internet policies alone but from a host of institutional legacies and socio-historical factors. The still centralized nature of national-level economic planning contributes to organizational efficiency in putting together a new technocratic state apparatus and mustering formidable amount of resources. Meanwhile, the Internet boom also owes to several decades of concentration in basic science and engineering research since the founding of the PRC, which was only furthered more systematically in the post-Mao era (Bianchi, Carnoy, and Castells, 1988; IDRC/SSTC, 1997).

Two additional factors contribute to the shaping of China's Internet. First, due to the size and complexity of the country, the Chinese state is less successful than neighboring tiger economies in policy implementation, particularly at the local level, where everyday decision-making depends on "bureaucratic entrepreneurs" (Hsing, 1998) who have intricate ties to Chinese business networks that go beyond the boundary of Mainland China. The widely discussed tendency of local state authorities to form "local state corporatism" (Oi, 1995) or "quasi-autonomous local economic empires" (Baum and Schvchenko, 1999) has been an essential factor for Internet projects in South China's Pearl River Delta as I found in interviews with local officials and IT managers. For example, in Nanhai, Guangdong Province, which hosts several national e-government model projects, the city government advocated the Internet as the key to economic growth, global competitiveness (especially vis-à-vis neighboring cities), and even the increase of local property value. The city invested heavily to connect all villages in Nanhai via fiber optics and set up touch-screen computers in the main office of every administrative village. Similar enthusiasm observed in Nanhai was found in the Taijiang District of Fuzhou City, Fujian Province (Damm, 2003). Yet, it was absent in other cities of the Pearl River Delta, which reflects suspicions towards the informational model of modernization that probably characterize most localities throughout the nation, where traditional industrialism retains feasibility as a more affordable route to economic growth. Hence, although informationalism, strongly advocated by the central government, has gained certain strongholds at the local level, there is still a long way to go for the Internet to be recognized as an indispensable tool for governance and business in less developed regions or localities with concentrated vest interest in agriculture and traditional industries.

While engaging in its project of national reinvigoration, the Chinese developmental state is also highly dependant on the global space of flows, technologically, financially, and in terms of personnel. Hardware and software transfer from western countries, at varying degree of legality, has been critical to the genesis and growth of China's Internet. Despite repetitive official endeavors to regularize technology transfer and minimize intellectual property infringement, especially after the country joined WTO, it is public knowledge that such attempts have been only marginally successful, leaving China's piracy market, probably the largest in the world, as a pending issue yet to be adequately assessed (Yu, 2000; 2001). A related and similarly under-researched phenomenon is the fast growth of Linux (e.g. "Red Flag Linux") in the country under the auspices of the Chinese state yet also as part of the global Open Source Movement.[28]

In the meantime, foreign direct investment (FDI) in China has been steadily growing. Although only a portion of the FDI was used in computer network construction, the increase in FDI volume was facilitated by the rapid diffusion of Internet. In 2002, China attracted US$ 53 billion of FDI, surpassing that of the United States, although without financial scandals and the subsequent downturn of western investment markets in 2001-2, China's FDI would have been only a fraction of the U.S. figure.[29] There also exist official policies that limit foreign investors in China to network construction and the manufacture of hardware and software, banning them from more lucrative service provision sectors (Mueller and Lovelock, 2000). However, the steady growth of FDI and the increasing integration between China's Internet industry and the global market should at least be partially accredited to the country's developmental strategies since the 1990s, when hi-tech industries utilizing foreign resources have been prospering from the traditional center of the Beijing-Tianjian region in North China to burgeoning towns in the southern Pearl River Delta. Particularly notable is the re-positioning of Shanghai as the country's economic center. MNCs such as Intel, Motorola, and NEC all established factories in Shanghai and adjacent areas (Fries, 2000:95) and so did most major Taiwanese microchip producers. Even though hi-tech production in the region is still in the process of taking-off and only few of the foreign enterprises have turned profitable, it is widely believed that the lower Yangtze delta, with Shanghai being its dragonhead, is to become a most dynamic link between China and world economy (Wu, 2000; Koehn, 2002).

Yet what percentage of China's FDI is truly foreign? Who actually come to invest in China's Internet? These questions lead to a less publicized yet critical factor in the success of the Chinese developmental state – the networks of global Chinese diaspora that connect the Mainland with Hong Kong, Taiwan, Singapore, and Chinese communities around the world into a Greater China. Lawrence Ma estimated that the population size of overseas Chinese was approximately 32.8 million in 1998 (2003:19), i.e. more than one fourth of the world's total migrant stock of 125 million.[30] The diligence and high saving rates of many Chinese expatriates helped them accumulate formidable wealth, which was estimated to be close to US$ 600 billion[31] including more than half of Southeast Asia's top 1000 companies (Kao, 1993). Most importantly, the Chinese expatriates often rely on family and native-place networks for business transactions and socio-cultural association (Hamilton, 1996, 1999; Hsing, 1998; Liu, 1998; Olds and Yueng, 1999; Yueng, 1999). According to John Kao's survey of overseas Chinese entrepreneurs (1993), 52% of them noted that more than half of their

[28] Steve Lohr, "Microsoft to Give Governments Access to Code," *New York Times*, January 15, 2003, p. C10; "A New Love Affair with Linux," *Asian Business*. February 2002. 38 (2), p. 43.
[29] *The Economist*, "Is the wakening giant a monster?" February 13, 2003.
[30] Alene Gelbard, Carl Haub, and Mary Kent (1999). "World Population Beyond Six Billion," *Population Bulletin*, Vol. 54, p. 17.
[31] Marcus Brauchli and Dan Biers, "Green Lantern: Asia's Family Empires Change Their Tactics for a Shrinking World," *Wall Street Journal*, April 19, 1995, p. 1.

work relationships and 39% of their international business ties were with Chinese partners. Scholars have also long recognized via statistical analyses as well as myriad fieldtrips that cultural synergy is attracting members of the Chinese diaspora to invest in Mainland China, particularly traditional origins of emigration in the southern provinces of Guangdong and Fujian (Lin, 1997; Hsing, 1998; Wei, et al, 1999; Cartier, 2001). Although the role of returning expatriates is more prominent in manufacture and trade rather than Internet ventures, as most of them operate on a small scale and large enterprises are forbidden to tap the more profitable service provision market, it is essential to acknowledge that they have been critical to the globalization of China's economy and the dramatic increase in informational needs, of which the Internet boom is an integral part and a consequence.

While old-generation sojourners are arriving at their ancestral hometowns, a new school of Chinese engineers, business managers, and financial analysts are also landing in the new airports of Beijing, Shanghai, and Guangzhou to form "the nucleus of a talented new generation of information technology entrepreneurs that is forging commercial links with China."[32] These are returning Chinese students sent offshore in the post-Mao era to study western technology and business skills, many of whom worked, or are still working, in the Silicon Valley and other American or European hi-tech centers. These are legendary IT entrepreneurs like Edward Tian, who grew up in the Cultural Revolution, obtained advanced degrees in foreign universities, and then returned to staff China's top echelon of Internet entrepreneurs (Sheff, 2002:1-10). This trend of "brain circulation" (Saxenian, 2002) accelerated after the burst of technology bubble in the global IT industry not only due to massive lay-offs in the West but also because they were lured by China's huge market potential, the temptation of going home, and above all, the fact that the developmental state is willing and able to provide competitive jobs and decent salary.[33]

Network of Censors and Its Enemies

That China endeavors to adjust itself to a new mode of development is probably not a unique phenomenon, which can be observed in neighboring countries and economic sectors other than the Internet. But the most intriguing idiosyncrasy about Internet in the PRC is that, despite the technology's liberalizing potential, its high speed of growth can be maintained within the framework of the current political system dominated by CCP. On this note, the case is priceless for comparative purposes because the technology is fostered, shaped, and contested under more restrictive circumstances than most parts of the world, yet it still develops so rapidly, regardless of the political factors many believe would handicap the nation's Internet industry from its inception. Given that Internet control in China has been constantly challenged both domestically and from the outside (Hartford, 2000; Harwit and Clark, 2001; Zhao, forthcoming), it is premature to conclude who is likely to be the ultimate winner. Yet the countless censorship battles fought in China's cyberspace may shed light on another, more restrictive aspect of the Chinese state, the internal conflicts among various state agencies, as well as the malleability of network technologies under politically restrictive circumstances.

Why China controls the Internet, although the developmental state is loosening its grip on various economic and social aspects to promote globalization and the New Economy? An outside observer might not be able to offer a rational explanation for the puzzle, but the answer is quite straightforward: institutional legacy. Unlike western countries, the Chinese legal system has never

[32] Bruce Gilley, "Looking Homeward," *Far Eastern Economic Review*, March 11, 1999, p. 50.
[33] Interviews with computer scientists, electronic engineers, and home-returning IT businessmen in Beijing, Shanghai, Shenzhen, and Los Angeles.

paid more than lip service to the right of free speech. The demand from authorities usually precedes the need for privacy protection. In the Chinese political culture, there is no translation either to distinguish "censorship" from "regulation." Hence, when officials think the Internet should be controlled, it is difficult for them to imagine there is any limit on what the state should do.

Meanwhile, although much of the Chinese mediascape has been reformed to suit the goal of marketization, the very core of China's media control system is still guarded by Leninist principles (Zhao, 1998; Lee, 2000; Chan and Qiu, 2001) and governed by stakeholders who may not think in line with MII technocrats. A look at members on board of the State Council Informatization Steering Group (SCISC), the nation's highest decision-making body for Internet affairs, would be revealing for this purpose. Together with MII and the major economic, educational, and technological commissions, there are also representatives of CCP Central Propaganda Department, State Council Information Office, Ministry of Public Security (MPS), State Secrecy Bureau (SSB), and the People's Liberation Army (PLA).[34] These agencies, most likely with policy priorities incongruent with the logic of the developmental state, would care less about national economy than the image of CCP leaders, the absence of open political debates, and the ability to crush oppositional forces, be they dissidents or opponents in future cyber-war. They constitute a different "ecology of games" (Dutton, 1992; 1999) that does not share the goals of economic development, that operates with its own rationale of power maximization.

The first official decree, "Temporary Measures for the Management of Computer Information Networks' International Connection," was announced in February 1996 and revised in May 1997. It dictated that (1) all international Internet traffic had to go through officially approved gateways, (2) all ISPs must be licensed, (3) Internet users need to be registered, and (4) "harmful information" that is "subversive" or "obscene" must be banned. A second ordinance was issued by MPS in December 1997 to improve "network security." It specified, still in broad terms, the types of "harmful information" and "harmful activities" such as hacking and spreading computer virus. In 1999, the State Encryption Management Commission, in close ties with SSB, promulgated *the Administration of Commercial Encryption Regulations* that required all network encryption products or equipments be approved as they belong to the category of state secret. Year 2000 alone witnessed the spike of six major regulations regarding state secrets, online business operation, information and news services, and Internet security (Cheung, 2003:79-82). The new rules primarily targeted at Internet content providers (ICP). Among other measures, they demanded online news disseminators to get special licenses, forbade foreign companies to become large shareholder of Chinese ICP, and required BBS and chatroom sysops to record user information (including content posted online, account name, duration online, IP address, accessing phone number) for at least 60 days to facilitate police work. Regulations at the national level were reiterated, sometimes in more strict terms, in the management policies of regional networks and commercial websites (Qiu, 1999:12), reflecting a "business culture of self-censorship" (Cheung, 2003:85).

Administrative measures are utilized to ensure that the system of regulations is more than a paper tiger (ibid.). MPS and SSB have set aside special task forces at national, provincial, and municipal levels including full-time cyber-police as well as "state information security liaison personnel (*guojia xinxi anquan lianluoyuan*)," many of whom are college students who get subsidized for computer and Internet access by working part-time for law enforcement.[35] There are also innumerous sysops, webmasters, and BBS boardmasters who share the labor due to either

[34] Same as note 26.
[35] "Internet Police Ranks Swell to 300,000," Hong Kong: *Ming Pao.* December 8, 2000.

formal requirement and/or the fear for penalties including temporary or permanent closure of their forums (Qiu, 1999).

On the technical front, China is known for its notorious "Great Firewall" that blocks access to harmful information, broadly defined, which arguably includes as many as 10% of websites on the World Wide Web (Zittrain and Edelman, 2002). The state agencies also apply advanced Intranet and tracking technologies as well as content filtering software in the so-called "Golden Shield Project" (Walton, 2001). Since 1998, dozens of intruders have been tracked down and imprisoned on charges such as disclosing state secrets, inciting subversion, Internet hacking, propagating Falungong, and, most recently, spreading rumor during the SARS epidemic. These include both males and females, with age ranging from late teens to early 40s, which include private IT entrepreneurs, schoolteachers, college students, and unemployed urbanites. Starting from September 2002, the blocking mechanisms became more sophisticated and aggressive. It targets more specifically at certain online content (e.g. an article at nytimes.com about Chinese corruption scandals but not other sections of the electronic newspaper), and for those who attempted to access outlawed information even via email, the new system may disturb the browser application or cause the terminal to be frozen (Zittrain and Edelman, 2002).

From an economic perspective, the censorship regime entails high costs that are hardly justifiable for national development: the personnel, the technology, the slowing down of network speed, and, above all, the image of a fettered Internet structure that would discourage foreign investment. But an insider would see the picture differently: aren't the control efforts creating jobs, generating profits, and bringing opportunities of international collaboration for China's network censors? Surveillance and repressive control have been a global industry, burgeoning particularly in the post-911 world. In China, both domestic and foreign IT firms salivate to work for the state by providing security technologies such as "personal identification systems" for e-government projects.[36] ICPs with government background especially welcome more stringent censorship measures, which they know would only apply to private start-ups with little official *guanxi*. An irony thus emerged since 2000 among the ICPs that, while private firms are becoming increasingly conservative, often providing nothing more than clips from officially sanctioned sources, netizen-based political debates (of corruption, WTO, international affairs etc) tend to migrate to online forums such as Qiangguo Luntan (www.qglt.com) hosted by the website of *People's Daily*.

Another aspect of censorship has to do with China's Internet cafés, a main point of access for children, migrant workers, and low-income Internet users.[37] Unlike large ISPs and ICPs, most cybercafés are small private businesses, many of which run by laid-off or underemployed state-owned enterprise workers.[38] In April 2001, the Measures for the Administration of Business Sites of Internet Access Services was promulgated by MPS, MII, Ministry of Culture, State Administration of Industry and Commerce, and State Birth Planning Commission in response to Internet trespassing from the cafés and increasing parental complaints about cybercafé's negative impact on schoolchildren. It formally prohibited Internet cafés from allowing patrons to access harmful information, required special licensing of net-cafés, and prevented unaccompanied minors under the age of fourteen from entering, but the regulation was poorly enforced until the deadly Beijing café fire in June 2002 (Murray, 2003). Even after the fire, there has been great geographical and temporal

[36] Interviews with officials and entrepreneurs, and observations in IT industry conventions.

[37] Personal observations. A survey I conducted in Guangzhou, Shenzhen, and Zhuhai also revealed that compared to long-term urban residents migrant workers are significantly more reliant on cybercafés for Internet access.

[38] Personal interviews with cybercafé owners and managers in Sichuan and Guangdong, and online discussions regarding cybercafé management.

variation in the implementation of the Internet café measures. While some officers would confiscate equipments or collect heavy fines from the cafés in one city during a crackdown campaign, others in neighboring towns may be less predatory or turn a blind eye as they know the market demand for cyber-café is too huge to be suppressed.

Difficult as it is to control the cybercafés, the problem of feasibility enlarges when it comes to the monitoring of individual users. The least enforceable are the articles regarding user registration. Never was there a systematic way to ensure each of China's 59 million Internet users is registered or the registration information verified. More often than not, one could access the Net at a cybercafé without showing any ID card; and it is common practice for people to use "Get Online Cards (*shangwangka*)" that provide dial-up connections without asking for any personal information.[39] Although the censorship regime is trying to block, filter, and track, it is still reported that the most determined users in China are capable of accessing outlawed information via encrypted messages, FTP, and most recently, peer-to-peer (P2P) technologies (Chase, Mulvenon, and Hachigian, forthcoming).

Moreover, it is out of the question that China might extend its jurisdiction to other parts of the world, to human rights networks in the US, Falungong websites in Europe, multilingual listservs about Tibet and Taiwan, or western hacktivist groups whose members abhor Beijing's Internet strategies. The global networked nature of such oppositional forces is the most fundamental source of frustration to any national authorities trying to control the Internet, which is particularly the case for the Chinese censors for they are unlikely to win public sympathy in liberal democracies where the anti-censorship networks are usually concentrated.

In sum, there are three discernible characteristics of China's Internet censorship system that deserve attention. First, regulatory measures are often post-hoc reactions to unpredictable conditions. The surge of content regulation in year 2000 was driven by the official perception of threat during the 1999 anti-NATO demonstrations following the bombing of Chinese embassy in Belgrade, in part organized by online forums, as well as the global dot-com fever that lured China's traditional media monopolies who hoped to raise the entry barrier to the ICP market. The 2001 Internet café measures resulted from increasing complaints from parents of schoolchildren, and its stricter implementation since summer 2002 was mainly due to the Beijing cybercafé fire.

Second, in this possibly the world's largest Internet control regime, there is much redundancy legislatively, institutionally, and in terms of the technological infrastructure. While this network of censors include multiple state agencies and commercial entities, their political and economic goals are relatively independent to each other, and the entire system is much less coordinated as China's economic framework for Internet development. No single central control point exists in this censorship regime, as evidenced in the unblocking of nytimes.com following the newspaper's interview with former president Jiang Zemin, when he openly praised New York Times without knowing that its website was banned in China.[40] The lack of traditional censorship hierarchy was also shown in the blocking of Google in fall 2002, a humiliating fiasco that reportedly involved multiple censorship agencies as well as China's domestic search engine companies, who hoped to increase their market share by blacking out Google.[41] While the network of censors is in no way a

[39] Participant observation in fieldtrips. This was my main way of Internet access in addition to cybercafés.
[40] John Gittings, "In the Chinese Doghouse," *The Guardian*. September 27, 2001. Bobson Wong, "Many Western Media Web Sites Now Accessible in China." Digital Freedom Network. May 20, 2002. Available: http://dfn.org/news/china/ban-lifted.htm.
[41] BBS News World Edition, "China Criticised for Ban on Google," September 5, 2002; Bobson Wong, "China's Ban on Google Web Search Engine Lifted." Digital Freedom Network. September 12, 2002. Available: http://www.dfn.org/news/china/google2.htm.

completely flat assemblage of loose links, it is enabled by new technologies to carry on the missions of the institutions, from the security/secrecy ministries to CCP propaganda divisions at national and local levels, operating with compartmentalized interests in a way that differs from traditional media control bureaucracy, which begs more research from a network point of view.

Finally, China's network of censors has entered into a covert alliance with the global IT industry, which undoubtedly enhances the capacity of the authoritarian state and necessitates a rethinking of the political role of the developmental state, and of economic globalization, in authoritarian countries. Many foreign IT firms, large or small, provided material support to China's control efforts: Microsoft, CISCO, IBM, Sun Microsystems, Bay Technologies, Nortel, iCognito (an Israeli electronic cognition firm), and numerous others in Europe (Qiu, 1999; Walton, 2001; Cheung, 2003). AC Nielsen/Net Ratings also obtained China's first license to track consumer browsing behaviors, which many doubt would be used against dissident activities (Cheung, 2003:85). Here arises a key dilemma in the increasingly globalized political economy of China's Internet because the multinationals are for-profits by nature and some of them proclaimed more grandiose goals such as helping China learn to do standard American Web-based consumer research or fight online piracy. It is hence essential to recognize that Internet censorship in China is not a purely political problematique. Nor is it isolated from the larger context of global capitalism.

The Formation of Cultural Identities

When state agencies, IT firms, and activist groups interact to establish, transform, and contest the fundamental parameters of China's cyberspace, on another level, Chinese netizens are constructing their online identities in a peculiar Internet culture that bears both Chinese and universal characteristics. To a great extent, the forging of identities among Internet users is a process under many limitations due to uneven geographical distribution of the technology, relative homogeneity of user demographics, the censorship regime, and the flourishing of consumerism jointly fostered by the party-state and the MNCs. It is thus not surprising to find that the mainstream of China's user population would care less about the grand narratives of modernity – be it rationality, liberalism, or "socialist democracy" – than subjects that can be discussed and celebrated, generating instant gratification for mass consumption. Essential to this process of collective identification are two trends: (1) the rise of a predominant culture of consumerism that characterizes much of the larger society and (2) the persistence of online nationalism with increasing affinity to state agenda. Both processes of cultural identification have been utilized by the state apparatus since the beginning of Deng Xiaoping's reform and opening-up period and are likely to remain central to the transformation of China in the long run. When the two bodies of discourse enter the virtual landscape, via keystrokes and mouse clicks, in images, sound bites, MP3s, and interactive Flash animations, they melt away into multiple inconsistent yet interrelated texts, into infinite instances of representation, into a new media culture of the ephemeral.

First, the versatility of consumerism in subsuming other cultural elements is a familiar worldwide phenomenon. What is special about China is the astonishing speed for such a massive society to swap from Maoist puritan lifestyle in the 1970s to periodic anti-materialism campaigns in the 1980s and then suddenly to the flourishing of hedonism at the turn of the century. In this sense, the Chinese cyberspace infused with symbols of moneymaking and pleasure-seeking probably captures the most dazzling snapshots of consumerism in contemporary China. From the beginning, buying computers and going online have been advertised as fashionable entertainment, as "surfing," an imported (and therefore pricey) pastime. Pop-up windows, flashy banner ads, and tinkling

promotions sometimes occupy half of the browser space when one opens the homepage of a major ISP, probably due to users' remarkable tolerance of commercials.[42] Broadband service providers are now selling Japanese hentai cartoons and latest Hollywood blockbusters to high-end users. As for those with more mediocre budget, including many rural residents,[43] their strong demand for online gaming is driving up stock price for dot-coms like Netease, the biggest gainer of any company on the hi-tech Nasdaq in 2002 that climbed 1,500% from 75 cents to US$ 11.45.[44]

To illustrate the seductive transience of China's consumption-oriented new media culture, there is probably no better exemplar than the short messaging system (SMS), a new aspect of China's network society. Designed to enhance communication among the 207 million cellular phone subscribers in the country, SMS service relies on the Internet for fiber optic channels and for content including personal messages (e.g. emails) as well as text, ring tones, and images provided by dot-coms.[45] In a similar way as NTT Docomo in Japan, SMS has been a huge commercial success, which has special implications for China because, by allowing charges to be added to the phone bill, it bypasses the problem of online payment for the majority of Chinese who do not have credit cards. In 2002, the largest SMS carrier in the country, China Mobile, transmitted 80 billion short messages,[46] which translated into US$ 1 billion in revenue. Besides exchanges within existing personal networks, a most popular SMS application is dating made possible by online clubs and QQ, a most popular instant messaging application that links up Internet and cell phone chatting. To increase SMS circulation, Chinese dot-coms like Netease also hire a team of "SMS authors (*duanxin xieshou*)" who put all their creativity into writing jokes, hoaxes, erotica, and congratulatory greetings that are crispy, condensed, and fleeting.[47]

Like the early diffusion of telephone reinforced existing inclinations among Americans (Fischer, 1992), the rise of Internet and new networked modes of communication is strengthening certain propensities in China's transitional society. In so doing, it also excludes alternative imaginations such as the hacker ethic (Himanen, 2001) as most Chinese versions of Linux are sold for a fee, and few inside the country see it as a problem.[48] The dominance of consumerism in shaping experiences with the Internet is only comparable to the supremacy of online nationalism, the most viable political discourse among Chinese netizens that is both routine in everyday discussion and of fundamental importance to the dynamics of social movements in China's cyberspace.

As previously mentioned, reinstating China's historical glory has been a persistent goal for generations of Chinese leaders, including the current authorities that perceive Internet as an opportunity in the larger project of national rejuvenation. However, it is still amazing to observe the intensity of relentless nationalistic sentiments during Web-based grassroots movements. The first such event was the protest against Japanese occupation of Diaoyu Island in September 1996 coordinated by Peking University's Untitled BBS Station (*weiming zhan*), also the first unauthorized student demonstration in Beijing since 1989. From then on, major online movements have occurred that targeted Indonesia (summer 1998), NATO (May 1999), Taiwan (July 1999), Japan (January

[42] According to Guo (2003), only 33.9% of users being surveyed think online advertisements should be controlled.
[43] H. Asher Bolande, "Bored Residents of Rural China Flock to Web Games," *Wall Street Journal*. May 7, 2003. Eastern Edition. Section B.6F.
[44] Yasmin Ghahremani, "Making Money On-line in China," *Far Eastern Economic Review*. May 15, 2003. Vol. 166. Iss. 19. pp. 30-32.
[45] Clark (2003).
[46] David Murphy, "He's No Techno Geek," *Far Eastern Economic Review*. February 27, 2003. Vol. 166. Iss. 8. p. 8.
[47] Long Chen, "I am a Backstage Manipulator of SMS Culture (wojiushi duanxinwenhua de muhouheishou)," Guangzhou: *New Weekly* (xinzhoukan), July 15, 2002, p. 39.
[48] Interviews.

2000 and February-March 2001), and the United States (April-May 2001).[49] The outburst usually follows a critical event (e.g. the 1999 NATO bombing of Chinese embassy in Belgrade) that triggers heated discussion in Internet forums, which then leads to Web-based mobilization, online and offline demonstrations (with or without official approval), and escalating cyber-violence that involves denial of access attacks, virus-sending, and hacking in a series of "patriotic net-wars (*wangluo weiguozhan*)" (Qiu, 2001a; 2002b), culminating into the so-called "First World Hacker War" following the US-China spy plane standoff in 2001, when thousands of websites on both sides of the Pacific fell victim.[50]

Typically, visible groups or sites of organizers would emerge within the first week of crisis to coordinate mobilization and aggressive efforts in a distinctive manner that I term "Chinese hackerism" to highlight its collectivist tendencies and links to state and corporate establishments, which were largely absent in western "hacktivist" campaigns (Qiu, 2002b). More quickly than the formation of online patriotic alliances was the speedy evaporation of the movements, often due to pressures from wary state authorities, indicating that grassroots nationalism in China's cyberspace remains a short-term catharsis of political libido more than an organized mode of citizen participation or a sustainable social force in and of itself, which is also evidenced in the absence of similar campaigns in the post-September 11 period. This said, one should not ignore that nationalist discourse still indeed permeates Chinese political arenas on the Internet and it remains central to the shaping of cultural identity at the personal level because, unlike modernist ideologies on the Left or the Right, it is the only state-promoted narrative framework that appeals to the majority of the netizens. The most important forum of this nature is Qianguo Luntan (i.e. "Strong Nation Forum") at peopledaily.com.cn, which began as an effort to spur discussion in the heat of the anti-NATO movement of 1999 but now hosts topics ranging from corruption to WTO to problems of unemployment, all under the explicit rubric of national rejuvenation.

To borrow from Roland Barthes (1957/1972:114), nationalism and consumerism in China's cyberspace are both "second-order semiological systems" that structure online experiences at a deeper level. Together, they reduce the spectrum of possibilities to a single core identity: *that of a Chinese consumer*. This nucleus of cultural identification is surrounded by an infinite number of youth subcultures, hobby clubs, professional networks, and special-interest associations with varying degree of marginality including faith-based movements,[51] gay and lesbian groups,[52] websites for the preservation of minority nationality cultures,[53] and so on. Not to deny the constraining effects of predominant cultural representations, one has to recognize that the plurality of online identities has far surpassed the level of China's traditional media due to the interactivity of the medium and its ability to reach beyond boundaries of all sorts. This, as elsewhere in the world, is a profound transformation into a new media culture that involves the readjustment of time and space coordinates, the shortening of attention span, the pastiche of global and local events, and the ever-increasing eclecticism under apparently fixed categories.

[49] Qiu (2001a).
[50] Craig S. Smith, "First World Hacker War," *New York Times*,May 13, 2001. p. 4.2.
[51] Zhao (forthcoming).
[52] Wang (2003).
[53] Zhang (2003).

Reflections: China and the Networks

Central to the examination of Internet in China is the classic contradiction between "technologies of freedom" (Pool, 1983) and hierarchical "statism" (Castells, 1996), which was rendered particularly acute by the scale and speed of development on both sides of the juxtaposition. Has the Internet liberalized China? Or has the Chinese state succeeded in creating an Internet after its own image? Answers from this broad examination of issues are both yes and no, to both of the two questions. Empirical evidence is far more intricate than any framework of binary opposition, as network formations in the PRC are situated in a unique "communication action context" (Ball-Rokeach, 2001; Qiu, 2003) of legacies, institutions, social groups, and cultural identities. While the Chinese state remains robust and active in pursuing its economic, political, and ideological goals, the logic of profit-maximization has also emerged as a predominant principle, particularly in large cities like Shanghai and the coastal South China region. Yet phenomenal Internet growth occurred, together with a host of new or renewed social networks, largely owing to the developmental state and the entrepreneurial marketing of the multinationals. In this process, the social structure induced by technological growth is molded and substantiated by the global force of late capitalism, China's national institutional heritage, as well as more diverse forms of system configuration in sub-national regions, cities, the countryside, and transboundary communities of all kinds.

Meanwhile, latent underneath the network of fast growth there is a network of depreciation and disconnectedness by which I understand relatively autonomous but interconnected sets of conditions that are unfavorable to the expansion and integration of Internet networks in China. Despite their prominent role in creating both incentives and constraints, China's state agencies are usually reactors to unforeseen situations in the continuously evolving online environment. So far they have been fortunate because, from the global space of flows to the emergence of a heavily commercialized cyber-culture, an overwhelming number of endogenous and exogenous factors are working to their benefits: the country's market potential, the returning of overseas Chinese, the popularity of nationalist and consumerist discourse, and collaborations with MNCs. However, many of these conditions are not static and their vicissitudes are beyond the control of any nation-state, a particularly risky situation given the flexible mode of production in late capitalism. Most importantly, the so-far favorable conditions are often coupled with serious challenges: information inequality, issues of piracy, conflicts of interests among major stakeholders, low level of citizen participation, and the vulnerability of Beijing as excessively dependent on high growth rates, which will draw the country even further into the whirlwinds of global capitalism.

Last but not the least, the promise of the Internet to bring more freedom to the Middle Kingdom has been anything but vanquished because, concomitant with the technological boom, there is the most decisive emergence of a fledging civil society in the online and offline worlds of contemporary China. Heightening as political and economic constraints continue to be, the sphere of unregulated communication keeps expanding in unexpected directions because, most fundamentally, it is the information needs of millions of Chinese netizens that lead to creative modes of information attainment, media usage, and social formation.

"Every burned book enlightens the world." The maxim from Ralph Waldo Emerson captures a unique characteristic of information networks, as one would suspect that this particular Internet boom pertains directly to the general lack of information and entertainment in the PRC. Without censorship, average members of the Chinese society would have been less tempted to go online. So it would have been if traditional media in the country had more diverse programming, or if Beijing

had not banned private ownership of satellite TV dishes in 1994.[54] This acknowledgement is in no way a defense of the censorship regime but a reflection at a higher level of generality upon the paradox of rapid Internet growth under authoritarian circumstances. In this regard, the Internet is not a superimposed agent of change. It is rather a conduit through which existing propensities of the Chinese society itself, are set free.

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[54] See Chan (1994). Personal observation: those who purchased or planned to purchase private satellite dishes in 1994 were among the first to acquire Internet access in their households.

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