and other states are crowding into the same areas may be misleading. Rubrics like biotechnology and nanotechnology conceal myriad specialized fields, each with unique research challenges and commercial possibilities.

Second, technology creation by its nature must aim for the highest possible quality. These intensely competitive fields resemble "winner take all" situations where the best knowledge is far more valuable than the second best. Not accidentally, state initiatives in New York, Florida, and South Carolina are called "centers of excellence." More important, states have emphasized investments in top-flight scientists by creating special chairs to accompany these research units.

Third, states have taken the theory of agglomerations to heart. Georgia's intention was to make Atlanta a hub for broadband R&D and manufacture. Michigan dubbed its initiative the "Life Sciences Corridor." New York consciously intended to nurture a biotechnology corridor on Long Island and a nanotechnology cluster around Albany. The extent to which these aspirations are fulfilled may never be precisely determined, but the policy thrust is notable. Universities are no longer seen as discrete organizations, but rather as parts of larger innovation systems. Greater cooperation across institutions may be a permanent legacy of these policies.

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Implications

These policies have brought a huge investment in the research capacity of American universities that would not otherwise have been made. All state strategies sought to employ leverage—the use of state resources to mobilize additional resources from industry, philanthropy, the federal government, and universities themselves. New York expected a 3-to-1 ratio of matching funds for its Centers of Excellence program; The California institutes were matched more than 2-to-1; and South Carolina asked its Centers of Excellence merely to match the state appropriation. Whether or not these policies prove effective in promoting economic development, they have contributed materially to the nation's capacity for fundamental research in economically strategic subjects.

On the other hand, the role of technology creation, through its dependence on IP, draws universities ever more deeply into the commercial realm. Without endorsing recent strictures against commercialization, the university's predicament should still be recognized. Universities stimulate economic activity in a variety of ways. The current emphasis by states on technology creation aims above all at generating knowledge of commercial value, in the form of IP. Creating a valuable product inevitably involves universities in the marketplace. Although their foremost and ultimately most valued function is to create intellectual capital, they can hardly avoid selling IP to parties who can realize its monetary value. State policies to promote economic development through university research have thus tilted the balance further toward the commodification of academic knowledge. ■

Corruption in China's Higher Education System: A Malignant Tumor

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Broadly defined by Transparency International, a nongovernmental monitoring group, as "the abuse of public office for private gain," corruption also constitutes an element of higher education in many parts of the world. The term academic corruption in mainland China usually refers to such violations as misrepresenting one's educational background or work experience, plagiarism, distortion of research data, affixing one's name to someone else's publications, and making false commercial advertisements, as well as other acts. Yet, the scope of infractions is much broader than imagined and includes corrupt behavior on the part of individuals and groups that is actually endemic to the entire system.

Since the 1990s, corruption has seriously threatened mainland China's universities in their teaching, research, service to society, and international links and exchanges. Yet, discussions of corruption have been largely confined to exchanges on the Internet. The Chinese masses know little of these discussions. Media coverage within China remains fragmentary and superficial. The government has just begun to address this issue by instituting countermeasures. The Ministry of Education promulgated Academic Norms Regarding Philosophy and Social Science Research in Higher Learning Institutions in early September 2004.

In China, the scale of corruption pertains to almost all aspects of higher education. This article focuses on three aspects that are indicative of academic corruption in other parts of the system.

Research Administration

The current quality of research conducted in China often suffers due to rampant plagiarism. A professor from the Southwest University for Nationalities even refers to China's academe as a "plagiarist's paradise." In early 2002, Wang Mingming from the Department of Sociology of Peking University became notorious because 100,000 words in his

book, *Imaginary Alien Nation*, are identical to some sections of *Cultural Anthropology,* by American anthropologist William A. Haviland. Wang, however, is just one of a list of academic cheaters. A dean of engineering at Shangdong University and a member of the Chinese Academy of Sciences (CAS), a president at Southeast University and a member of the Chinese Academy of Engineering (CAE), and a full professor and dean of law at Shanghai University, for example, were all found to have committed "serious cheating." What distinguishes these examples is that these academics have all successfully maintained their high positions.

Corruption in research, however, goes far beyond plagiarism. Individual violations are closely related to the way the system operates. While economic and political corruption attracts widespread attention, academics avoid scrutiny due to the special nature of their profession but have also abandoned the traditional values of the university.

With regard to research funding, many academics make a great effort to apply for grants and to build up personal relationships to strengthen their chances of winning. However, large grants are usually dispersed among the most prominent scholars in the various fields. Moreover, in order to encourage research, the different levels of government and universities allow a substantial percentage of the grant money to go directly into researchers' own pockets, and the rest of the funding can also be used quite freely for personal purposes. Similarly, decisions regarding awards, promotions, and bonuses are sometimes determined more by power than qualifications.

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The desire for power has created academic overlords of various sorts. Some do little academic work but enjoy the powerful status of vice ministerial–level rank. A typical example involved the research on SARS in 2003. While some scientists on the mainland identified the prime culprit a few weeks before their Hong Kong peers, they did not dare to publicize their findings because the authorities had already taken a different position on the situation.

Another kind of academic overlord, according to the Chinese academics interviewed, is a director or faculty dean at a research institution who appoints people on the basis of favoritism, seizes funds for personal use, and deceives supervisors while deluding subordinates. Shanxi Institute of Coal Chemistry, affiliated to the CAS, for example, received more than 100 million yuan of funding within the past few years but produced only six international publications. The institute's directors' annual income, however, amounted to 10 times that of a professor's salary. When questioned on how to increase productivity, one of the directors asked for another 200 million yuan of investment from the government. These practices combine to create an environment in which only holding an official position can secure one's survival in the pecking order.

Academic Promotion

The differentiation of the professoriate in China is unique, internationally. Professors promoted before 1988 enjoy pay and conditions otherwise only granted to high-ranking officials. Nowadays, the professoriate includes at least six to eight levels. Due to the establishment of the 985 Project, which aims at creating world-class universities, the government has invested heavily in a few select universities. Most of them have used a considerable part of the investment to attract talented staff, increase academic salaries, and restructure professorial ranks into three levels of posts.

The differentiation of the professoriate in China is unique, internationally.

The differentiation is linked to the dramatic increase in the number of professors and shows their rapid loss of status. Academic promotion is based more on personal connections than on professional achievement. According to our interviewees, this is also the case in the promotion of professors as doctoral advisers at the institutional level and in the election of CAS and CAE members, which means a readjustment of individual, group, and institutional benefits.

In sharp contrast to the decline in self-esteem of professors, the cost of CAS and CAE members has risen substantially. In order to become a member, the candidate and his or her institution spare no expense for "packaging" and relationship building. Being elected to be a CAS or CAE member means one takes on an official status as an academic authority, with pay and conditions at the level of vice minister, and control of a large amount of research funding. The criteria employed are more related to the strength of the candidate's institution, references, alma mater, and personal contacts. The reason for universities to support these efforts is that powerful CAS and CAE members are crucial in winning a range of competitions with their peers, and thus vital to the financial strength of the institution.

Doctoral Students' Training

In a "great leap forward," over the past decade the number of doctoral students increased dramatically in China. Doctoral programs benefit both academic advisers and institutions. The establishment of these programs requires permission from the Ministry of Education, which commissions panels to review applications annually. Universities often spend millions of yuan on "public relations" in support of their applications to obtain permission to launch a program. Once a doctoral program is established, academics from other programs within the institution, and even some from other institutions, use it as a basis of support for their promotion to be doctoral advisers

and for recruiting doctoral students. Since 1998, Xiangtan University, for example, has been determined to "win permission for doctoral programs at all costs," and by 2004 this policy resulted in nine programs. As the number of doctoral students is directly linked to government appropriation, the growing number of fee-paying doctoral students is a substantial contributor to university revenues.

A related phenomenon is the relationships and subtle dealings between universities and people in business and government, many of whom are enrolled in doctoral studies, but not all of them perform the work of degree programs. Cash, power, and influence become corrupting factors and compromise academic standards. One doctoral student at the Beijing University of Science and Technology completed an entire thesis within a week. Such practices have compromised the quality of doctoral students' training. This explains why an examiner from the Chinese Academy of Social Sciences became such a newsworthy figure when he rejected a student's doctoral thesis in 2003.

Corruption in higher education relates closely to institutional aspects of China's system.

Conclusion

Corruption in higher education relates closely to institutional aspects of China's system. The effect on higher education development and on the entire nation's modernization is devastating, particularly because science and education have been officially identified as strategically significant in China's nation-building. My research has repeatedly confirmed that many Chinese diaspora scholars with good intensions to return and serve China shrink back at the sight of corruption.

Corruption also greatly hinders the internationalization of China's higher education. It is even more detrimental to scholarly exchanges between the Chinese mainland and Hong Kong: Hong Kong has played a role as the "beachhead" of China's higher education internationalization by providing crucial benefits to the mainland while maintaining its own sense of standards.

An analysis of corruption in China's higher education demonstrates how the corporate "Western" managerial and market accountability mechanisms are becoming layered on top of a more traditional accountability based on personal relationships in the form of *Guanxi*. The result has been corruption of accountability procedures in China's current higher education system. The modified Western and traditional modes of accountability operate under different sets of rules, and the two are in constant tension. This has been confirmed by an overwhelming number of respondents in my research within recent years. ■

China's Universities on the Global Stage: Perspectives of University Leaders

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The Chinese government has had a policy of giving priority funding to its top universities since 1993, when it announced the 211 Higher Education Project, which opened the way for universities across the country to make strategic bids for acceptance among China's top 100 institutions and be funded to reach world-class standards in the 21st century. At the time of Peking University's centenary in May 1998, the 985 World-Class University Project was launched; it has continued to concentrate high-level funding on a much smaller number of top universities.

In July 2004, we interviewed the senior vice presidents of three universities in the Shanghai area that are among the nine top-ranking institutions first selected for the 985 Project: Fudan University, Shanghai's leading comprehensive university; Shanghai Jiaotong University, which has a high profile in science and engineering; and Zhejiang University, in nearby Hangzhou. We also interviewed the president of East China Normal University, one of two national leaders in teacher education. These university leaders agreed that Chinese universities should be taking active steps to raise China's cultural profile consonant with the country's growing economic role. At the same time they noted that scientific achievements and reputation have been the main focus of their efforts to reach world-class standing and that Chinese intellectuals continue to be hampered by limits on intellectual freedom—limits that constrain initiatives in the area of thought and culture. Each of these leading figures gave us a somewhat different picture of recent aspirations and achievements.

Constraints on the Nurturing of Thinkers

Fudan's vice president described one of Fudan's greatest strengths as a tradition of academic independence going back to its early years as a private university, which will be celebrated in its upcoming centenary year in 2005. He stressed Fudan's responsibility for nurturing "thinkers" first and foremost, yet expressed frustration at the fact that there are still many "forbidden zones" of research on health issues such as AIDS and SARS, also in politically sensitive areas such as the Tiananmen tragedy of 1989 and the Cultural Revolution of 1966. He drew attention to the University of Tokyo's movingly