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Rampant Fraud Threat to China's Brisk Ascent By ANDREW JACOBS

BEIJING — No one disputes Zhang Wuben's talents as a salesman. Through television shows, DVDs and a best-selling book, he convinced millions of people that raw eggplant and immense quantities of mung beans could cure lupus, diabetes, depression and cancer.

For \$450, seriously ill patients could buy a 10-minute consultation and a prescription — except Mr. Zhang, one of the most popular practitioners of traditional Chinese medicine, was booked through 2012.

But when the price of mung beans skyrocketed this spring, Chinese journalists began digging deeper. They learned that contrary to his claims, Mr. Zhang, 47, was not from a long line of doctors (his father was a weaver). Nor did he earn a degree from Beijing Medical University (his only formal education, it turned out, was the brief correspondence course he took after losing his job at a textile mill).

The exposure of Mr. Zhang's faked credentials provoked a fresh round of hand-wringing over what many scholars and Chinese complain are the dishonest practices that permeate society, including students who cheat on college entrance exams, scholars who promote fake or unoriginal research, and dairy companies that sell poisoned milk to infants.

The most recent string of revelations has been bracing. After a plane crash in August killed 42 people in northeast China, officials discovered that 100 pilots who worked for the airline's parent company had falsified their flying histories. Then there was the padded résumé of Tang Jun, the millionaire former head of Microsoft China and something of a national hero, who falsely claimed to have received a doctorate from the California Institute of Technology.

Few countries are immune to high-profile frauds. Illegal doping in sports and malfeasance on Wall Street are running scandals in the United States. But in China, fakery in one area in particular — education and scientific research — is pervasive enough that many here worry it could make it harder for the country to climb the next rung on the economic ladder.

A Lack of Integrity

China devotes significant resources to building a world-class education system and pioneering research in competitive industries and sciences, and has had notable successes in network computing, clean energy, and military technology. But a lack of integrity among researchers is hindering China's potential and harming collaboration between Chinese scholars and their international counterparts, scholars in China and abroad say.

"If we don't change our ways, we will be excluded from the global academic community," said Zhang Ming, a professor of international relations at Renmin University in Beijing. "We need to focus on seeking truth, not serving the agenda of some bureaucrat or satisfying the desire for personal profit."

Pressure on scholars by administrators of state-run universities to earn journal citations — a measure of innovation — has produced a deluge of plagiarized or fabricated research. In December, a British journal that specializes in crystal formations announced that it was withdrawing more than 70 papers by Chinese authors whose research was of questionable originality or rigor.

In an editorial published earlier this year, The Lancet, the British medical journal, warned that faked or plagiarized research posed a threat to President Hu Jintao's vow to make China a "research superpower" by 2020.

"Clearly, China's government needs to take this episode as a cue to reinvigorate standards for teaching research ethics and for the conduct of the research itself," the editorial said. Last month a collection of scientific journals published by Zhejiang University in Hangzhou reignited the firestorm by publicizing results from a 20-month experiment with software that detects plagiarism. The software, called CrossCheck, rejected nearly a third of all submissions on suspicion that the content was pirated from previously published research. In some cases, more than 80 percent of a paper's content was deemed unoriginal.

The journals' editor, Zhang Yuehong, emphasized that not all the flawed papers originated in China, although she declined to reveal the breakdown of submissions. "Some were from South Korea, India and Iran," she said.

The journals, which specialize in medicine, physics, engineering and computer science, were the first in China to use the software. For the moment they are the only ones to do so, Ms. Zhang said.

Plagiarism and Fakery

Her findings are not surprising if one considers the results of a recent government study in which a third of the 6,000 scientists at six of the nation's top institutions admitted they had engaged in plagiarism or the outright fabrication of research data. In another study of 32,000 scientists last summer by the China Association for Science and Technology, more than 55 percent said they knew someone guilty of academic fraud.

Fang Shimin, a muckraking writer who has become a well-known advocate for academic integrity, said the problem started with the state-run university system, where politically appointed bureaucrats have little expertise in the fields they oversee. Because competition for grants, housing perks and career advancement is so intense, officials base their decisions on the number of papers published.

"Even fake papers count because nobody actually reads them," said Mr. Fang, who is more widely known by his pen name, Fang Zhouzi, and whose Web site, New Threads, has exposed more than 900 instances of fakery, some involving university presidents and nationally lionized researchers.

When plagiarism is exposed, colleagues and school leaders often close ranks around the accused. Mr. Fang said this was partly because preserving relationships trumped protecting the reputation of the institution. But the other reason, he said, is more sobering: Few academics are clean enough to point a finger at others. One result is that plagiarizers often go unpunished, which only encourages more of it, said Zeng Guoping, director of the Institute of Science Technology and Society at Tsinghua University in Beijing, which helped run the survey of 6,000 academics.

He cited the case of Chen Jin, a computer scientist who was once celebrated for having invented a sophisticated microprocessor but who, it turned out, had taken a chip made by Motorola, scratched out its name, and claimed it as his own. After Mr. Chen was showered with government largess and accolades, the exposure in 2006 was an embarrassment for the scientific establishment that backed him.

But even though Mr. Chen lost his university post, he was never prosecuted. "When people see the accused still driving their flashy cars, it sends the wrong message," Mr. Zeng said.

The problem is not confined to the realm of science. In fact many educators say the culture of cheating takes root in high school, where the competition for slots in the country's best colleges is unrelenting and high marks on standardized tests are the most important criterion for admission. Ghost-written essays and test questions can be

bought. So, too, can a "hired gun" test taker who will assume the student's identity for the grueling two-day college entrance exam.

Then there are the gadgets — wristwatches and pens embedded with tiny cameras — that transmit signals to collaborators on the outside who then relay back the correct answers. Even if such products are illegal, students spent \$150 million last year on Internet essays and high-tech subterfuge, a fivefold increase over 2007, according to a Wuhan University study, which identified 800 Web sites offering such illicit services.

Academic deceit is not limited to high school students. In July, Centenary College, a New Jersey institution with satellite branches in China and Taiwan, shuttered its business schools in Shanghai, Beijing and Taipei after finding rampant cheating among students. Although school administrators declined to discuss the nature of the misconduct, it was serious enough to withhold degrees from each of the programs' 400 students. Given a chance to receive their M.B.A.'s by taking another exam, all but two declined, school officials said.

Nonchalant Cheating

Ask any Chinese student about academic skullduggery and the response is startlingly nonchalant. Arthur Lu, an engineering student who last spring graduated from Tsinghua University, considered a plum of the country's college system, said it was common for students to swap test answers or plagiarize essays from one another. "Perhaps it's a cultural difference but there is nothing bad or embarrassing about it," said Mr. Lu, who started this semester on a master's degree at Stanford University. "It's not that students can't do the work. They just see it as a way of saving time."

The Chinese government has vowed to address the problem. Editorials in the state-run press frequently condemn plagiarism and last month, Liu Yandong, a powerful Politburo member who oversees Chinese publications, vowed to close some of the 5,000 academic journals whose sole existence, many scholars say, is to provide an outlet for doctoral students and professors eager to inflate their publishing credentials.

Fang Shimin and another crusading journalist, Fang Xuanchang, have heard the vows and threats before. In 2004 and again in 2006, the Ministry of Education announced antifraud campaigns but the two bodies they established to tackle the problem have yet to mete out any punishments.

In recent years, both journalists have taken on Xiao Chuanguo, a urologist who invented a surgical procedure aimed at restoring bladder function in children with spina bifida, a

congenital deformation of the spinal column that can lead to incontinence, and when untreated, kidney failure and death.

In a series of investigative articles and blog postings, the two men uncovered discrepancies in Dr. Xiao's Web site, including claims that he had published 26 articles in English-language journals (they could only find four) and that he had won an achievement award from the American Urological Association (the award was for an essay he wrote).

But even more troubling, they said, were assertions that his surgery had an 85 percent success rate. Of more than 100 patients interviewed, they said none reported having been cured of incontinence, with nearly 40 percent saying their health had worsened after the procedure, which involved rerouting a leg nerve to the bladder. (In early trials, doctors in the United States who have done the surgery have found the results to be far more promising.)

Wherever the truth may have been, Dr. Xiao was incensed. He filed a string of libel suits against Fang Shimin and told anyone who would listen that revenge would be his.

This summer both men were brutally attacked on the street in Beijing — Fang Xuanchang by thugs with an iron bar and Fang Shimin by two men wielding pepper spray and a hammer.

When the police arrested Dr. Xiao on Sept. 21, he quickly confessed to hiring the men to carry out the attack, according to the police report. His reason, he said, was vengeance for the revelations he blames for blocking his appointment to the prestigious Chinese Academy of Sciences.

Despite his confession, Dr. Xiao's employer, Huazhong University of Science and Technology, appeared unwilling to take any action against him. In the statement they released, administrators said they were shocked by news of his arrest but said they would await the outcome of judicial procedures before severing their ties to him.

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