

## THE RETURN OF THE “SEA TURTLES” TO CHINA: THE TIDES OF BIOTECH ARE SHIFTING

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Over the past few decades, China has become a pharmaceutical manufacturing center due to its lower manufacturing costs; a large, highly skilled work force; and past experience in generics manufacturing. China’s potential as a leading world market has created much incentive for the expansion of testing and manufacturing facilities there. Western companies have several concerns, however, that have made them hesitate to outsource primary biotech research and expand their biopharmaceutical manufacturing in Chinese facilities. These concerns are primarily related to regulatory issues, inadequate IP protection, quality control, and cultural and language barriers.

Some recent changes have resulted in an increase in Western biopharmaceutical activity in China. Many major pharmaceutical companies based in the West are currently opening new biotech research facilities and increasing their production in China. One major reason is that the cost of conducting biotech R&D in China is one-eighth that in the United States (Wong 2008). Furthermore, manufacturing costs are less in China than in India (where they are 40% below the U.S.) because of lower employee wages (Minevich and Rickter 2005). Several other factors have influenced this recent growth.

At the end of the Cultural Revolution in 1978, many Chinese graduates traveled abroad for graduate study. Most of them were among China’s top students academically, and the majority stayed abroad in countries such as the United States and Western Europe because of better employment opportunities. However, over the past five years, a large number of them have returned to China, due to increasing job opportunities and government incentives. Between 2001 and 2004, the Chinese government made significant investments in China’s biotech industry in order to promote its economy. Other incentives, such as the “100 Talents” program that offered high salaries and generous research budgets to young, motivated scientists provided further impetus (Keeley and Wilsdon 2007). As a result, there has been a significant increase in the return of talented, Western-educated scientists. Although more than 100,000 Chinese students leave China to study overseas every year, these graduates are now returning in increasingly larger numbers, from around 6,000 per year in 1995, to more than 40,000 in 2006 (Gross and Connor 2007).

Returning “sea turtles” or “hai gui” (a Chinese phrase meaning either returnees from overseas, or sea turtles that are born on the shore, grow up at sea, and return to their birthplace to lay their eggs) are bringing their expertise to the Chinese biotech industry. They provide the incentive to Western companies, already taking advantage of China’s lower manufacturing costs, to expand their biotech investments into research. As one returnee, Biliang Zhang, director at CAS Institute for Biomedicine and Health in Guangzhou, explained “Having us back in China running an institute is actually very useful for our colleagues in the U.S. It means we have a bridge on which to build collaboration. I’m now setting up a joint venture with my former professor in Massachusetts, which will be headquartered in the U.S., but take advantage of research costs here” (Keeley and Wilsdon 2007).

## Is the “Sea Turtle” Phenomenon Enough?

Returnees have helped to bridge the large communications gap, primarily due to significant language and cultural barriers that exists between China and the West. Their proficiency in English and Mandarin, combined with an understanding of both Western and Chinese culture, has promoted transnational partnerships. As many Chinese-born scientists return to China, they are starting new companies and entering high level academic positions or senior positions in large multinational companies. In addition, many maintain their Western contacts, further facilitating partnerships. Returnees are particularly sought for senior management positions because of their knowledge of both Chinese and Western management styles. According to Charles Tseng, president of Korn/Ferry in Asia, a global recruitment firm for management and executive professionals, the ideal manager has the ability to bridge the gap between Chinese and Western managers which requires an understanding of differences in leadership styles (New Economist Blog 2006).

However, some Western companies believe that the “sea turtle” phenomenon, while beneficial, has not solved all the problems associated with outsourcing biotech to China. Stephen Sammut of Burrill & Company, a San Francisco-based global life sciences investment company, suggests that “the country’s industry might better be served if Chinese residents in the West built transnational companies with a footprint in both China and the West”. He further explains that “while this practice is already common, regulation and taxation policies to encourage this approach would address many of the concerns of private and public capital, assure protective alliance partners, and add depth to the pool of experienced managers. Such an approach would also promote China as a co-development partner rather than a purely low-cost venue to international companies to contract services” (Collins 2008).

Despite some barriers, several major cities in China have become modern high-tech centers for biopharmaceutical research, testing, and production, including Beijing, Shanghai, and Tianjin. Many Chinese universities now rank among the top in the world, and new graduates provide a fresh source of scientists in the field. The combination of Chinese scientists trained in China with those returning from abroad has created a large workforce with expertise in biomedical sciences. All these factors ---government investments in the biotech sector, lower development and manufacturing costs compared to the West, modern high-tech facilities, and a large pool of highly educated scientists --- are helping China to position itself as a world leader in the biopharmaceutical industry. However, the “sea turtle” phenomenon, in particular, has played a big role in the increased presence of Western biotech companies in China.

## “Transculturals” in China

China’s past continues to influence its present through various cultural factors that maintain influence over Chinese society. Conformity, for example, has always been an important part of Chinese culture, often at the cost of innovation. Mu-Ming Poo is a professor and department head of neurobiology at the University of California, Berkeley. Born in China, he completed his PhD in biophysics at Johns Hopkins University. His understanding of cultural barriers comes from his own bicultural experience. According to Mu-Ming Poo, “The Confucian tradition of respecting customs and hierarchy has cast a long shadow over China... Deference to authority and to existing paradigms is a major barrier to scientific breakthrough” (Keeley and Wilsdon 2007). Other cultural factors include differences in business attitudes. Joy Chen, principal at Heidrick & Struggles International Inc., another global recruiting firm for international business executives, explains that these attitudes can create a barrier “Companies want to localize but the majority of people who are local mainland Chinese don’t have experience with global business principles” (New Economist Blog 2006).

Newly graduating scientists continue to be educated in this manner, while scientists who have studied and worked abroad are more apt to follow Western cultural attitudes. Because of such differences in attitudes, in addition to other factors, some returnees feel that they are being kept at an arms length. Despite many Chinese-trained scientists’ reservations about returnees, one study found that cultural differences may work to the advantage of the returning scientists. For example, Chinese society highly regards education, and returning scientists with graduate

degrees from various prestigious universities abroad are highly respected in China (Wong 2008). However, the primary asset that returning scientists bring to China is their familiarity with Western project management styles and business attitudes.

Finally, Chinese returnees best understand the challenges of overcoming language and cultural barriers. Their experience in both the East and the West has given them a more realistic perspective of the differences. But many need time to readjust to their homeland, after living abroad for extended periods. One returnee noted that he had become accustomed to people saying “thank you” in response to a compliment; in China the same response might be considered impolite or show a lack of humility (Gross and Connor 2007).

## Language in China

Although the presence of returnees has helped to improve communication between China and the West, proficiency in foreign languages is not common among the Chinese. Most are more likely to speak Japanese or Korean, as a second language, than English. With the 2008 Olympics in Beijing, there was a major effort by the Chinese government to increase English proficiency (Press Trust of India 2005). In addition, some companies have started programs to teach their employees. Although English proficiency is on the rise, it is inadequate. Many technical people working in biopharmaceutical manufacturing or research facilities who have been educated in China are not adequately proficient in English. As a result, translation and interpreting services are still an important requirement for Western companies actively investing in China. Regulatory documents including Good Manufacturing Practices (GMPs) and Standard Operating Procedures (SOPs) must be translated into Mandarin Chinese, China’s official language. Experience has taught that the translation of such complicated, highly technical material is best done by local professional translators in the field. They can provide localization strategies using their knowledge of the culture and local language, in addition to their background in biomedical sciences and familiarity with local regulatory requirements.

Given China’s flourishing economy, the “sea turtles” will continue to return home. Their presence will help overcome language and cultural barriers to some extent, and transnational partnerships between Western companies and Chinese biotechs will continue to grow. As biotech research and biopharmaceutical manufacturing become more prominent in China, the need for high-quality translation services will be greater than ever.

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