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Chinese Science and Technology Industrial Parks

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Rapid economic development has taken place in China since the late 1970s. Whether China can acquire advanced technology from advanced countries or develop its own indigenous technology are crucial challenges for China to become a global competitor. Chinese Science and Technology Industrial Parks (STIPs) have been established in China to foster technology transfer and technology development.

This book, written by Susan Walcott, a geographer in Georgia State University, is a study of high-tech parks in different regions in China. The author examined four questions. First, do China's STIPs represent unique model with Chinese characteristics? Second, does each STIP present its own modifications within a regional or national superstructure? Third, what is the role of proximity for promoting learning within a STIP? Fourth, how do interactions vary among foreign and Chinese companies, and what are the networks between them.

The author examined STIPs in six cities out of 54 STIPs in China. Field visits and interviews were conducted and detailed information and statistics were collected. Following recent theoretical advancements on industrial clusters based on science and technology, five central themes of place and space, firm, firms in place, network types and globalisation are discussed for STIPs in each city.

The book has 11 chapters. Chapter one introduces the theme of the book. Chapter two considers the general theoretical issues in economic geography to provide a theoretical framework for the study. Chapter three reviews the development of various polices for various types of zones especially those related to STIPs in China. The current status of STIPs in the whole country is examined providing a national context for the case studies in subsequent chapters. Chapter four to ten are the main part of the book examining three types of STIPs in six cities. The final chapter concludes the book by
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visiting the four research questions mentioned before. The main challenges facing China are identified and a best practice model is proposed.

The author divided STIPs into three types with distinct characteristics. Multinational development zones, including samples of Shenzhen, Dongguan and Suzhou, emphasize the role of TNCs (Transnational Corporations) as growth engine as these companies come to invest in China to make use of inexpensive labour and tap the potential large domestic market. Shanghai is considered as an example of multinational learning zone and most likely to succeed to learn high-tech from foreign companies. On the other hand, local innovation learning zones are more reliant on domestically generated technology with some interactions with foreign companies. In Beijing, university-affiliated indigenous high-tech enterprises have emerged. Due to its isolated location, Xian draws heavily on local university resources and its close ties to a military-industrial complex. Other than massive investment from Hong Kong and overseas Chinese, Shenzhen also utilizes effectively technology transfer from universities in Beijing.

One important finding is that some types of technology transfer such as worker training and innovation commodification do occur, although there is little explicit technology transfer to STIPs from TNCs. The TNCs are attracted to STIPs to make use of local advantages in the parks and their advantages of advanced production technology and products. Thus STIPs partially achieve the objective of producing high-tech products by using, rather than acquiring in most cases, TNCs' advanced technology. The reasons that technology transfer rarely takes place include the concerns about intellectual property protection and the difficulty of obtaining qualified highly skilled labour such as electrical engineers. Many R&D centres established by TNCs in STIPs mainly engage in modification for Chinese domestic market. Many production activities involve just assembly operations using cheap labour with most input imported under the slogan of "global sourcing and local assembly". It is clear that a lot of raw materials and components have been imported to China from the world. This explains equally rapid growth in Chinese import along its expanding export.

The content of the book is well organized but some improvements could be made especially some tables. For example, the provincial level torch projects in Dongguan are

regarded as the torch projects for the whole province of Guangdong in Table 5.2. For western readers, it is also useful to convert Chinese units such as 10,000 to conventional units of 1,000 in some tables.

The author is successful in conducting a comprehensive survey of STIPs in China revealing the difference between Chinese companies and foreign companies operating in STIPs and the difference in STIPs in different regional and city contexts. The book is recommended to scholars who are interested in China's technology development, industrial clusters and STIPs.

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