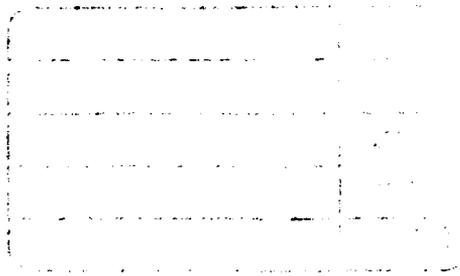


---



***The Capacity of Industrial Topographies  
for Civic Culture***

*A Case Study and Reinterpretation of the Urban Order in Shipai,  
Dongguan, Guangdong, China*

*Tomaz Pipan*

*A thesis submitted in partial fulfilment of the requirements  
of London Metropolitan University*

*July 2014*

---



**IMAGING SERVICES NORTH**

Boston Spa, Wetherby

West Yorkshire, LS23 7BQ

[www.bl.uk](http://www.bl.uk)

**ORIGINAL COPY TIGHTLY  
BOUND**



## **IMAGING SERVICES NORTH**

Boston Spa, Wetherby

West Yorkshire, LS23 7BQ

[www.bl.uk](http://www.bl.uk)

**ALL IMAGES, FIGURES AND  
CHARTS NOT COPIED AT  
REQUEST OF THE  
UNIVERSITY.**

---

# Table of Contents

<i>Table of Figures</i> .....	<i>vi</i>
<i>Preface</i> .....	<i>xvii</i>
<b>I. Abstract</b> .....	<b>xvii</b>
<b>II. Acknowledgements</b> .....	<b>xviii</b>
<b>III. Declaration of Authorship</b> .....	<b>xix</b>
<i>PART A. Introduction</i> .....	<i>1</i>
<b>1. Dissertation Overview</b> .....	<b>2</b>
OUTLINE OF THE THESIS	
<b>2. Framework</b> .....	<b>4</b>
TERMINOLOGY	
<b>2.1. Definition of the Framework</b> .....	<b>5</b>
PURPOSE OF THE CITY   CULTURE AND THE CONTEMPORARY CITY   INSTITUTIONS   NATURE AND TECHNOLOGY	
<b>2.2. Definition of the Main Topics and Criteria of Judgment</b> .....	<b>15</b>
FRAMEWORK STATEMENTS ABOUT THE CITY   STATEMENT OF MAIN TOPIC	
<b>2.3. Research Topic and Hypothesis</b> .....	<b>16</b>
SHIPAI AS A RESEARCH TOPIC   HYPOTHESIS	
<b>3. Research Questions and Outlined Outcomes</b> .....	<b>20</b>
<b>4. Methodology</b> .....	<b>22</b>
BIBLIOGRAPHY   SITUATED ARCHITECTURAL RESEARCH PHENOMENOLOGICAL HERMENEUTICS   STRUCTURE OF CHAPTERS	
<i>PART B. Politics of Nature in China</i> .....	<i>28</i>
<b>5. Rural Urbanization in Dongguan</b> .....	<b>28</b>
<b>5.1. Policies and History of Dongguan</b> .....	<b>30</b>
<b>5.1.1. Introduction of Dongguan</b> .....	<b>31</b>
<b>5.1.2. Historical and Policy Reasons for Rural Industrialization</b> .....	<b>35</b>
MAO ZEDONG AND GREAT LEAP FORWARD   HUKOU HOUSEHOLD SYSTEM   DENG XIAOPING AND RELAXATION OF POLICIES TVEs AND DIFFERENT PRACTICES OF RURAL URBANISATION	
<b>5.1.3. The PRD Industrialization Model</b> .....	<b>42</b>
FOREIGN DIRECT INVESTMENT and PROCESS AND ASSEMBLY   GUANXY CONNECTIONS AND ACCESS TO INSTITUTIONS MIGRANT WORKERS AND THE FUTURE	

---

<b>5.2. Regional Urban Structure of Chashan-Shipai.....</b>	<b>47</b>
<b>5.2.1. Introduction to Chashan-Shipai.....</b>	<b>47</b>
<i>FRAGMENTATION OF THE AREA   DONGGUAN ECO-INDUSTRIAL PARK</i>	
<b>5.2.2. Stages of Rural Urbanization in China .....</b>	<b>60</b>
<b>5.2.3. Regional Urban Pattern .....</b>	<b>65</b>
<b>5.2.4. Growth of Urban Pattern .....</b>	<b>68</b>
<i>AGRICULTURE WITH RICE PADDIES   ROAD INFRASTRUCTURE   BUILDING NEW FACTORIES   VILLAGE EXPANSION</i>	
<i>NON-INDUSTRIAL EXPANSION   TWO CORRIDORS AND A REVISION OF THE "DESAKOTA" MODEL</i>	
<b>5.2.5. Local Topography .....</b>	<b>84</b>
<b>5.2.6. Regional Corridor.....</b>	<b>91</b>
<b>5.3. Conclusion: Rural Urbanization in Dongguan .....</b>	<b>99</b>
<i>GENERAL FINDINGS   CAPACITY FOR COMMITMENT AND ROLE OF INSTITUTIONS</i>	
<i>ROLE OF INDUSTRY   ROLE OF ARCHITECTURE</i>	
<b>6. Topography of Shipai - Negotiation of Orders.....</b>	<b>102</b>
<b>6.1. Traditional Order .....</b>	<b>105</b>
<b>6.1.1. Concrete Engagement and Traditional Nature .....</b>	<b>107</b>
<i>HISTORICAL CONTINUITY AND CULTURAL UNITY   STRONG CONNECTION TO NATURE   NATURE OF CONCRETE ENGAGEMENT</i>	
<b>6.1.2. Topography of Tangwei Village .....</b>	<b>121</b>
<i>HISTORICAL REFERENCES</i>	
<b>6.1.3. Conclusion: Traditional Order .....</b>	<b>130</b>
<b>6.2. Techno-Capitalist Order .....</b>	<b>131</b>
<b>6.2.1. Scientific Nature of Abstraction .....</b>	<b>133</b>
<i>THE SCIENTIFIC CONCEPTION OF NATURE   SUPPORTING CAPITALISM WITH SCIENTIFIC NATURE</i>	
<b>6.2.2. Economy and Infrastructure .....</b>	<b>139</b>
<i>ECONOMIC SPACE OF MANAGEMENT   INFRASTRUCTURAL SPACE OF NON-COMMITMENT</i>	
<b>6.2.3. Conclusion: Techno-Capitalist Order .....</b>	<b>155</b>
<b>6.3. Composite Order .....</b>	<b>157</b>
<b>6.3.1. Interstitial Topographies of Local Community .....</b>	<b>158</b>
<i>TOPOGRAPHY OF LIJIAFANG VILLAGE   TOPOGRAPHY OF SHANGBAOTAN VILLAGE</i>	
<b>6.3.2. Negotiation of Informal and Formal.....</b>	<b>180</b>

<b>6.3.3. Informal Topographies Structure the Regional Corridor .....</b>	<b>183</b>
<i>AN INFORMAL MARKET AND A SHOPPING MALL   THE INFORMAL MARKET IN THE SHADOW OF INDUSTRIES</i>	
<i>DONGGUAN YIJIA PACKED GOODS FACTORY</i>	
<b>6.3.4. Conclusion: Composite Order .....</b>	<b>195</b>
 <b>6.4. Conclusion of Chapter: Negotiation of Orders.....</b>	 <b>197</b>
<i>GENERAL FINDINGS   CAPACITY (FREEDOM) FOR COMMITMENT AND THE ROLE OF INSTITUTIONS</i>	
<i>ROLE OF ARCHITECTURE   ROLE OF INDUSTRY   TOPICS FOR FOLLOWING CHAPTERS</i>	
 <i>PART C. Topography of Industrial City in Recent History.....</i>	 <i>204</i>
<i>INTRODUCTION</i>	
 <b>7. Cycles of Industrialization – rise, collapse and renewal.....</b>	 <b>207</b>
<i>FIRST CYCLE OF INDUSTRIALIZATION   SECOND CYCLE OF INDUSTRIALIZATION</i>	
 <b>7.1. Integrated Industrial Production.....</b>	 <b>210</b>
<b>7.1.1. From Auto Craftsmen to Assembly Line .....</b>	<b>210</b>
<i>THE CITY OF UNSKILLED WORKERS   INDUSTRY AS CIVIC PRIDE   DEPARTMENT STORE AS PUBLIC SPACE</i>	
<i>INSTITUTIONS AND FREEDOM FOR COMMITMENT (CIVIC PARTICIPATION)</i>	
<b>7.1.2. From Assembly Line to Vertically Integrated Ford empire .....</b>	<b>230</b>
<i>ARCHITECTURE AND CITY AS A MACHINE   CULTURE AS A PROJECT</i>	
<b>7.1.3. Conclusion: Integrated Industrial Production .....</b>	<b>244</b>
<i>CAPACITY (FREEDOM) FOR COMMITMENT, ROLE OF INSTITUTIONS   ROLE OF ARCHITECTURE AND INDUSTRY</i>	
 <b>7.2. Dispersed Industrial Production.....</b>	 <b>246</b>
<b>7.2.1. Decline of Detroit .....</b>	<b>246</b>
<i>AUTOMATION   DECENTRALIZATION   DISCARDED DETROIT   INNOVATION   CONCLUSION: DECLINE OF DETROIT</i>	
<b>7.2.2. Post-Fordism .....</b>	<b>255</b>
<i>INNOVATION ENVIRONMENT   ECONOMY OF FLOWS   FLOWS AND NETWORKS IN ARCHITECTURE</i>	
<i>TOPOGRAPHY OF THE INNOVATION FLOW CITY   TOPOGRAPHY OF THIRD ITALY   INSOURCING BOOM</i>	
<b>7.2.3. Conclusion: Dispersed Industrial Production .....</b>	<b>270</b>
<i>ROLE OF ARCHITECTURE AND CAPACITY FOR COMMITMENT   ROLE OF INSTITUTIONS AND CAPACITY FOR COMMITMENT</i>	
<i>TOPICS FOR FOLLOWING CHAPTERS</i>	
 <b>7.3. Displaced Industrial Production .....</b>	 <b>273</b>
<b>7.3.1. Corporations and Sustainable, Ecological Industrialization.....</b>	<b>273</b>
<i>CORPORATIONS AND ECOLOGY OF INDUSTRIAL ARCHITECTURE   CORPORATIONS AND CIVIC RESPONSIBILITY</i>	
<i>LIMITS OF MULTINATIONAL COMPANIES AS CIVIC PARTNERS   ROLE OF CITY AND POTENTIALS OF MULTI NATIONALS AS CIVIC PARTNERS</i>	

<b>7.3.2. Landscape as agency in Industrial City .....</b>	<b>288</b>
<i>ECOLOGY AND THE CITY   SUSTAINABILITY AND THE CITY   LIMITS OF URBAN GARDENING</i>	
<i>LACK OF KNOWLEDGE, EDUCATION AND CONNECTIONS</i>	
<b>7.3.3. Conclusion: Displaced Industrial Production .....</b>	<b>300</b>
<i>GENERAL FINDINGS – ROLE OF INDUSTRY   CAPACITY (FREEDOM) FOR COMMITMENT AND ROLE OF INSTITUTIONS</i>	
<i>ETHICAL RESPONSIBILITY TO CIVIC CITY</i>	
 <i>PART D. Reinterpretation and Comparison .....</i>	 <i>307</i>
 <b>8. Comparison and Speculation .....</b>	 <b>307</b>
 <b>8.1. Summary .....</b>	 <b>307</b>
<b>8.1.1. Politics of Nature in China.....</b>	<b>307</b>
<b>8.1.2. Cycles of Industrialization in Recent History.....</b>	<b>310</b>
<b>8.1.3. Concluding Remarks .....</b>	<b>311</b>
 <b>8.2. Speculations on Shipai .....</b>	 <b>313</b>
<b>8.2.1. Generic Urban Orders .....</b>	<b>313</b>
<i>URBAN ORDER OF ONE ELITE   URBAN ORDER OF DIVERSIFIED ELITES</i>	
<i>URBAN ORDER DEPENDENT UPON UTILITY   URBAN ORDER DEPENDENT UPON MEANING</i>	
<b>8.2.2. Transformation Scenarios (Speculations) .....</b>	<b>316</b>
<i>SCENARIO ONE: "SUPREMACY OF CAPITAL"   SCENARIO TWO: "HI-TECH SUCCESS"   SCENARIO THREE: "SUSTAINABILITY IS A COMMITMENT"</i>	
 <b>8.3. Industrial City and its Ethical Capacity .....</b>	 <b>336</b>
<b>8.3.1. Industry as Cultural Reserve .....</b>	<b>336</b>
<b>8.3.2. Favourable Conditions .....</b>	<b>339</b>
<i>PROBLEM 1: CAPITALIZATION OF SINGLE ELITE   CONDITION 1: PLURALITY OF CIVIC PARTICIPATION</i>	
<i>PROBLEM 2: UTILITY NOT ACCOUNTABLE TO ETHICS   CONDITION 2: COMMITMENT AND COMPLACENCY</i>	
<b>8.3.3. Sustainable and Ethical Civic Order .....</b>	<b>342</b>
 <b>8.4. Concluding Thoughts .....</b>	 <b>346</b>
 <i>PART E. References .....</i>	 <i>348</i>
 <b>9. Glossary of Terms, Acronyms and Abbreviations .....</b>	 <b>348</b>
 <b>10. Bibliography.....</b>	 <b>351</b>

**PAGINATED BLANK PAGES  
ARE SCANNED AS FOUND  
IN ORIGINAL THESIS**

**NO INFORMATION IS  
MISSING**



## Table of Figures

Figure 1-0.	a. Pearl River Delta and location of Dongguan prefecture city region. b. Location of Shipai township within Dongguan. c. Orthophoto of the immediate research area in the Shipai township. © Initial imagery: Google, January 2007 .....	1
Figure 1-1.	LEFT: Population make-up and rise in Dongguan. RIGHT: Land Use transformation due to rural industrialization in Dongguan. © Drawn by Tomaz Pipan. Source: Compiled by Lin 2006 from Dongguan Statistical Bureau, 1998: 234-239 and 2003: 59-62.....	2
Figure 2-1.	Athenian Polis 5 <sup>th</sup> century BCE (reconstruction). The topography of the polis is intrinsically connected to its architecture and to mediation between cosmic, natural and human conditions. © Anonymous, accessed at <a href="http://www.sikyon.com">www.sikyon.com</a> in May 2014.....	7
Figure 2-2.	Piazza del Campo, Sienna, Italy, the heart of social and political life. © Anonymous, accessed at <a href="http://www.ioamoiviaggi.it">www.ioamoiviaggi.it</a> in May 2014.....	8
Figure 2-3.	The Turbinenhalle for A.E.G. in Moabit, Berlin featured prominently as an integral part of the city fabric. Peter Behrms, 1909. © Google, May 2014.....	10
Figure 5-1.	First special economic zones in China that facilitated opening of China to the world economy in 1978. 1. Pudong, Shanghai 2. Xiamen, Fujian 3. Shantou, Guangdong 4. Shenzhen, Guangdong 5. Zhuhai, Guangdong 6. Hainan © Alan Mark, Wikipedia, reworked by Tomaz Pipan.....	30
Figure 5-2.	Location of the Pearl River Delta within the Guangdong province. © NordNordWest, Wikipedia, reworked by Tomaz Pipan.....	31
Figure 5-3.	Changes to land ratios in Dongguan. © Drawn by Tomaz Pipan. Compiled by Lin 2006 from Dongguan Statistical Bureau, 1998: 234-239 and 2003: 59-62.....	32
Figure 5-4.	Dongguan area in 1949. © Great Britain War Office 1949.....	33
Figure 5-5.	Dongguan area in 2010. © Google, January 2013, conservative extrapolation by Tomaz Pipan from initial Google Map image of the Dongguan City Proper.....	33
Figure 5-6.	Location of Shipai and Chashan townships within the Dongguan prefecture. © Tomaz Pipan, reworked from various online material.....	34
Figure 5-7.	Propaganda poster: “The people's communes are good”. © Rui Guangting, Shanghai educational publishing house, 1958.....	37
Figure 5-8.	Changes in population ratios in Dongguan. © Drawn by Tomaz Pipan. Compiled by Lin 2006 from Dongguan Statistical Bureau, 1998: 234-239 and 2003: 59-62.....	45
Figure 5-9.	Location of the research area in the context of the Pearl River Delta, Dongguan prefecture and local townships. © Initial imagery: Google, January 2007.....	47
Figure 5-10.	Road infrastructure in Dongguan Proper in reference to the Chashan-Shipai area Two main north-south highways are very visible. The roads account for the built areas, the white for agriculture. It is evident that Chashan – Shipai area is away from major transport routes. © Google, February 2012.....	48
Figure 5-11.	Orthophoto of the researched area as it appeared in 2007.Rice paddies flanked by amalgamated urban build-up. © Google, January 2007.....	49

Figure 5-12. 1. Rice paddies, 2. Fish Farms, 3. Allotments, 4. Historical Village and a Pond, 5. Shaking-hads Village, 6.High-end Villa Gated Estate, 7.Mid-range housing, 8. Low-range housing, 9.Small industrial compounds, 10. Large Industrial Compound. © Google, January 2008.....	50
Figure 5-13. Land Use Map of Lijiafang Village in Shipai Township. © Guangdong Provincial Institute of Urban and Rural Planning, accessed at baidu.com in February 2014. ....	51
Figure 5-14. Comparing Dongguan Proper to the interlocking character of the Chashan-Shipai area. © Google, June 2009.....	52
Figure 5-15. Land use in the Chashan-Shipai area. © Compiled, drawn and calculated by Tomaz Pipan for the MA thesis. Based on analysis of orthophoto by Google January 2007.....	53
Figure 5-16. Land Use Map of entire Shipai Township. © Guangdong Provincial Institute of Urban and Rural Planning, accessed at baidu.com in February 2014. ....	54
Figure 5-17. Orthophoto before and after the Eco-Industrial Park development was initiated. January 2008 (left) compared to June 2012 (right). The rice paddy area is being completely transformed into the artificial lake. Additional landscaping is continuing. © Google.....	55
Figure 5-18. Plans for the Eco-Industrial park in the Chashan-Shipai area. © Dongguan Eco-Industrial Park, accessed at dgep.gov.cn in February 2011 .....	57
Figure 5-19. LEFT: Rice paddy fields before Eco Industrial Park on 2008 visit. MIDDLE: Same area in 2012 visit. RIGHT: Landscaped area along the main canal that has replaced the rice paddies. © Tomaz Pipan, 2008 and 2012 .....	57
Figure 5-20. Artist's rendition of the main lake in Eco-Industrial Park. © Dongguan Eco-Industrial Park, accessed at www.dgep.gov.cn in February 2011.....	58
Figure 5-21. Location of Figure 5-22 sample areas. LEFT: Historical map from 1949. © Great Britain War Office. RIGHT: Map from January 2009 © Google.....	62
Figure 5-22. Bottom Row: stages of industrialization as they exist around the Chashan-Shipai area in January 2009. © Google. Top Row: the condition of these areas before the rural industrialization in 1949. © Great Britain War Office.....	63
Figure 5-23. Spatial configuration of hypothetical Asian country. © Ginsburg-McGee, Ginsburg et al 1991: 6.....	65
Figure 5-24. Corridors in Dongguan city region are visible along main infrastructural routes. Image cca 1990. © Google.....	66
Figure 5-25. Spatial proximity and adjacency between industry and dwelling in the Chashan-Shipai area is one of the intriguing consequences of rapid industrialization of this area. © Tomaz Pipan for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings. ....	67
Figure 5-26. Different stages of growth of corridors. © Google, June 2009.....	68
Figure 5-27. Sampling of the Figure 5-26. Areas that can be still seen in different phases of industrialization. © Google, February 2012.....	69
Figure 5-28. Area 1 in Dongguan. © Google June 2009.....	70
Figure 5-29. LEFT: An organization of villages in lower Yankzi River (similar conditions to Pearl River Delta) © Knapp 1992: 14. RIGHT: Chashan-Shipai area in 1949. © Great Britain War Office. ....	71

Figure 5-30. Area 2: new road infrastructure waiting for development. It disregards the existing order of village and rice-paddies. Some preparations of new plots is already evident which also disregard the rice-paddy grid. © Google, June 2009.....	72
Figure 5-31. Area 3: the road infrastructure is ready, plots are rented out and new factories are built. © Google, June 2009.....	74
Figure 5-32. Area 4: existing villages are expanded – “shaking-hands” villages are built in the area between the industrial estates and historical villages. Local villagers usually move to new buildings and rent out the old houses in the village. © Google, June 2009.....	75
Figure 5-33. Area 5: a more built-up area of the regional corridor, where housing and industries inhabit adjacently the space of regional road infrastructure. © Google, June 2009.....	77
Figure 5-34. Dormitory in front of a bigger industrial compound. The ground floor and the street acts as a living room for the migrant workers. © Rawan Massood,, 2012, tutored by Tomaz Pipan. ....	79
Figure 5-35. Appropriating the street as a living room of a collective. © Tomaz Pipan, 2012. ....	79
Figure 5-36. Simulation of industrialization. 1: Original condition of rice paddies and villages. 2: New infrastructure is superimposed. It avoids the existing villages. Industries start to attach. 3: Existing villages are expanded with “shaking-hand” villages toward the new infrastructure accommodating. 4: Industries grow along the new infrastructure. More “shaking-hands” villages are built by the locals. 5: Mid-end housing starts to develop along the new infrastructure sometimes replacing industry. 6: Current stage of industrial corridors and accompanied housing. © Tomaz Pipan for the MA thesis. Simulation represents an imagined reconstruction from the final condition (image 6) developed backwards to illustrate the process of industrialization.....	80
Figure 5-37. Analysis of programs in the Chashan-Shipai area clearly demonstrates two types of corridor agglomerations. One of predominantly industry and the other predominantly of housing. © Tomaz Pipan for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings. ....	81
Figure 5-38. Meshing of the two corridors in the Chashan-Shipai area. © Tomaz Pipan for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings. ....	82
Figure 5-39. The negotiation of two corridors. We can define two types of growth. First, the regional corridor accounting for freight transport and regional connections. It accumulates mainly industry, but also caters for rudimentary services and dense housing. Second, the local topography that accounts for aspirations of local population. © Tomaz Pipan for the MA thesis.....	82
Figure 5-40. Local corridors in the Shipai township. © Tomaz Pipan, composite drawing redrawn from Google 2007 orthophoto and 1949 historical map from Great Britain War Office. ....	84
Figure 5-41. Local infrastructural spine knits the loosely connected local topography together into a corridor. © Tomaz Pipan for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings .....	85
Figure 5-42. Xian Village, Zhujiang New Town, Guangzhou, China. © Steve Bromberg.....	86
Figure 5-43. A sequential order of different places within the local corridor: from the outskirts, where the village is connected to rice paddies to the main local road, and a place of local economy. © Tomaz Pipan, 2008, 2012 and 2014 .....	87
Figure 5-44. Traditional village typology and the tjianjing courtyard house typology. © Tomaz Pipan. Reconstruction based on Google orthophoto and Knapp 1992.....	88

Figure 5-45. Central Park New York, USA. © LEFT: Anonymous, 1984, courtesy of Library of Congress, accessed at Wikipedia on 2010. RIGHT: Google, 2010.....	89
Figure 5-46. Places of new public life in the regional corridor across Shipai township. © Tomaz Pipan, 2008 and 2012.....	90
Figure 5-47. Regional corridor. © Tomaz Pipan, composite drawing redrawn from Google 2007 orthophoto and 1949 historical map from Great Britain War Office.....	91
Figure 5-48. Sequential ordering of industrial clusters along the regional corridor. © Tomaz Pipa for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings.....	92
Figure 5-49. LEFT: Introverted character of industrial clusters. RIGHT: Disconnected network. © Tomaz Pipan for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings.....	92
Figure 5-50. Industrial compound: Everything is geared toward production. TOP: good infrastructural connection to bring goods in and out. MIDDLE: typical industrial shed for assembly of products: rows of work stations along the assembly line. BOTTOM: industrial buildings are clustered around a central open space where trucks can come and load. © Tomaz Pipan. Reconstruction based on Google, visits and other sources.....	93
Figure 5-51. Kay Yo plastic moulding Co. Typical small sized industrial compound in Shipai. © Goran Vukcevic, 2012, tutored by Tomaz Pipan.....	94
Figure 5-52. The Kay Yo plastic moulding Co. LEFT: Dormitories (from the back). MIDDLE: Entrance to the compound with moulding building left and management right. RIGHT: finalization and packaging. © Tomaz Pipan, 2012.....	94
Figure 5-53. Location and approximate size of the Yue Yuen factory compound in Dongguan Proper (the actual housing area that is part of the industrial compound might be bigger). © Google, May 2014.....	95
Figure 5-54. The entrance gate to the Eily Clothing Machinery Co. with the Shishi dragons. © Tomaz Pipan, 2008.....	97
Figure 5-55. Shishi Chinese guardian lions. From left to RIGHT: Forbidden Palace (Ming dynasty), Forbidden Palace (Qing Dynasty) Beijing, National Palace Museum, Taipei and Daci temple in Chengdu. © All Public Domain, accessed at Wikimedia in April 2012.....	97
Figure 6-1. Title page from Folk Magazine blog. © Folk magazine, accessed at folklifestyle.com in April 2013.....	105
Figure 6-2. Along the River During the Qingming Festival, Zhang Zeduan, Song Dynasty, 12 <sup>th</sup> century. © Zhang Zeduan, 1085–1145, accessed at www.zhlzw.com in April 2013.....	108
Figure 6-2 continued.....	109
Figure 6-2 continued.....	110
Figure 6-3. Section 7 of the Qingming scroll. The morning in the town. © Zhang Zeduan, 1085–1145, accessed at www.zhlzw.com in April 2013.....	112
Figure 6-4. Section 4 of the Qingming scroll. The willow trees. © Zhang Zeduan, 1085–1145, accessed at www.zhlzw.com in April 2013.....	113
Figure 6-5. Section 17 and 18 of the Qingming scroll. Typical merchant street in Song dynasty. © Zhang Zeduan, 1085–1145, accessed at www.zhlzw.com in April 2013.....	115
Figure 6-6. Section 13 of the Qingming scroll. Detail of the rainbow bridge. © Zhang Zeduan, 1085–1145, accessed at www.zhlzw.com in April 2013.....	116

Figure 6-7.	Segment 25 of Qingming scroll. Detail of a crossroads in the city within the city walls. © Zhang Zeduan, 1085–1145, accessed at <a href="http://www.zhlzw.com">www.zhlzw.com</a> in April 2013. ....	119
Figure 6-8.	Location of the Tangwei village. LEFT: condition in 1949. © Great Britain War Office. MIDDLE: condition in 2011. © Google 2011. RIGHT: location of main square and Figure 6-12. © Google 2011. ....	122
Figure 6-9.	South-East entrance to the Tangwei village. © Dongguan Cultural Network, accessed at <a href="http://www.dgwh.dg.gov.cn">www.dgwh.dg.gov.cn</a> in April 2013.....	123
Figure 6-10.	Masonry details and reliefs on the ancestral homes and houses. © Tomaz Pipan, 2013.....	123
Figure 6-11.	The south approach to the village with the banyan tree, the wall and the gated entrance. © Tomaz Pipan, 2013.....	125
Figure 6-12.	Birds-eye perspective view of a village fragment. © Julija Domariska 2012, tutored and additionally reworked by Tomaz Pipan. ....	126
Figure 6-13.	Ancestral home, community building, fish pond on the right. © Tomaz Pipan, 2012.....	128
Figure 6-14.	From left to RIGHT: Village entrance tower; turning a corner in the tower; curved path; the water well; square with a Jos burning oven. © Tomaz Pipan, 2013.....	128
Figure 6-15.	The village square. From left to RIGHT: Joss burning oven; playing mah-jong in community centre; mah-jong table; pool and people playing cards in the community centre. © Tomaz Pipan, 2012.....	129
Figure 6-16.	Yearly festivities at the Tangwei village. A photograph on the wall of a newly established restaurant in the village. © Tomaz Pipan, 2013.....	129
Figure 6-17.	Exhibition hall and "digital sandbox", Chengdu Planning Museum, Chengdu, Sichuan, China. © Author Unknown, accessed at <a href="http://news.chengdu.cn">news.chengdu.cn</a> in March 2013.....	134
Figure 6-18.	Exhibition hall and digital sandbox, Eco-Industrial Park Shipai Town, Dongguan, Guangdong, China. © Author Unknown, accessed at <a href="http://www.dgyouth.gd.cn">www.dgyouth.gd.cn</a> in March 2013.....	134
Figure 6-19.	Digital sandbox model, Eco-Industrial Park, Shipai Town, Dongguan, Guangdong, China. © Tomaz Pipan, 2012.....	135
Figure 6-20.	Digital sandbox in action with projections onto the model and animations on the screen behind. Eco-Industrial Park Shipai Town, Dongguan, Guangdong, China. © Tomaz Pipan, 2012.....	135
Figure 6-21.	Adjacent organization of industrial compounds along the regional infrastructure, creating regional corridors. © Tomaz Pipan, redrawn from Google 2007 orthophoto. ....	141
Figure 6-22.	Location of detailed typicalities. © Tomaz Pipan, redrawn from Google 2007 orthophoto. ....	143
Figure 6-23.	Fairview South walled villa compound. LEFT: The south gate entrance façade. MIDDLE: The gate itself with security guards. RIGHT: The interior of the compound – one of the villas © Tomaz Pipan, 2012.....	144
Figure 6-24.	LEFT: industrial compound bordering on the villa compound. RIGHT: villa compound seen from behind the east wall. © Tomaz Pipan, 2012.....	144
Figure 6-25.	Wall separates villa compound from adjacent industrial compounds. © Kristin Krause, tutored and additionally reworked by Tomaz Pipan.....	146

Figure 6-26. LEFT: A meeting of developers in progress in one of the single family houses © Smith in Koolhaas 2001. RIGHT: One of the villas in the Fairview South compound where such deliberations might have happened. © Tomaz Pipan, 2012.....	148
Figure 6-27. Birds-eye perspective view of the industrial cluster. © Kristin Krause, tutored and additionally reworked by Tomaz Pipan.....	151
Figure 6-28. From left to RIGHT: Low-end shed-housing; canteen and grocery shop; industrial compound entrance; bicycle repair shop. © Tomaz Pipan, 2012.....	152
Figure 6-29. Street as the living room of communal life for the local population. Examples from around various towns of Dongguan. © Tomaz Pipan, 2008, 2012 and 2013. ....	152
Figure 6-30. LEFT: Airing of the blankets on a make-shift hanger in front of the worker dormitory in Shipai. RIGHT: Drying clothes on balconies of worker dormitory and fraternizing on the pavement in front of a local canteen in the shade. © Tomaz Pipan, 2012.....	154
Figure 6-31. Weaving of Local Topography and the Regional Corridor. © Tomaz Pipan, composite drawing redrawn from Google 2007 orthophoto and 1949 historical map from Great Britain War Office.....	160
Figure 6-32. Distinct parts of Lijiafang village: Regional Corridor and Local Topography with village and negotiation territory (that becomes part owned by locals and part developed into industrial land). The former represents an in-between condition that accommodates the villagers' aspirations, Village Committee's debt to the village and their commercial cunning. © Tomaz Pipan, 3D extrapolation based on Google 2007 orthophoto. ....	162
Figure 6-33. Location and size of the Lijiafang administrative village. © Guangdong Provincial Institute of Urban and Rural Planning, accessed at baidu.com in February 2014. ...	163
Figure 6-34. Within the shaking hands village. LEFT: Entrance to a house. MIDDLE: Cross ventilation alley. RIGHT: Main street. © Tomaz Pipan, 2012.....	165
Figure 6-35. Shaking-hands village house in the first phase in Lijiafang village. © Anna Regner, tutored and additionally reworked by Tomaz Pipan. ....	166
Figure 6-36. Lijafang shaking-hands village phase one and the corner "villa" © Baidu 2012 and Tomaz Pipan 2012.....	167
Figure 6-37. The "villa" corner house on the edge of the Lijafang shaking-hands village phase one overlooks the gardens. © Rawan Massood, tutored and additionally reworked by Tomaz Pipan.....	168
Figure 6-38. Front row houses in the new shaking-hands village phase two. The area of more influential villagers close to the Village Committee. © Tomaz Pipan, 2013.....	169
Figure 6-39. Different development stages of shaking-hands houses depending on the wealth of individual villagers. © Tomaz Pipan, 2013.....	170
Figure 6-40. Newly refurbished public spaces between the historical village and the new shaking-hands village. The pond with Banyan tree (left), the park with playing ground and lounging area (right). © Tomaz Pipan.....	172
Figure 6-41. LEFT: Edge of the new park with children playground and benches. © Tomaz Pipan, 2013. MIDDLE: Location of the public space Figure 6-40. © Baidu 2012. RIGHT: Refurbishment of the traditional area - Banyan tree and the benches next to the main village pond. © Tomaz Pipan 2013.....	173

Figure 6-42. Different parts of the Lijiafang village. Claims on the interstitial territory of local topography are the embodiment of a composite order. Some reconciled, some not – they represent negotiation between traditional and techno-capitalistic forces. © Tomaz Pipan.....	175
Figure 6-43. Shangbaotan “natural” village in the Hengshan administrative village. © Baidu, 2012. ....	177
Figure 6-44. From left to right: Public space under a tree, re-allotted gardens with shaking-hands village in the background, fish pond, new cardboard factory. © Tomaz Pipan, 2012 and 2013. ....	177
Figure 6-45. Birds-eye perspective view of an interstitial area in the Shangbaotan “natural” village. Typologies and typicalities can be attributed to traditional and to techno-capitalist orders. © Tomaz Pipan.....	178
Figure 6-46. LEFT: Official Session in a Chinese yamen, Guangzhou, before 1889. RIGHT: Chinese Yamen at Shaoxing Fu, Zhejiang Province, 1803. © Author Unknown, public domain, accessed at Wikipedia in May 2013.....	181
Figure 6-47. The Jiajiale Department Store with the informal market all around it. © Tomaz Pipan, 2013.....	184
Figure 6-48. Location of the Jiajiale Department Store and its informal market, Zongkeng administrative village, Shipai. © Baidu, 2014. ....	185
Figure 6-49. LEFT: the Jiajiale Department Store with its empty corner retail space. RIGHT: First floor of the store with stacks of packaged snacks and food. © Tomaz Pipan, 2012.....	186
Figure 6-50. LEFT: the informal market on the parking lot of the shopping mall with its temporary structures. RIGHT: a make shift tailor repair shop. © Tomaz Pipan, 2012 and 2013. ....	186
Figure 6-51. The "high street" along the Kangwang road stocked by chain stores and brand names. © Tomaz Pipan, 2012.....	188
Figure 6-52. The location of the informal market in the palley to the Kangwang road. © Iwetta Makarewicz 2012, tutored by Tomaz Pipan. ....	189
Figure 6-53. The life and daily situations alongthe informal market. © Tomaz Pipan, 2012.....	190
Figure 6-54. LEFT: deserted alley where the unofficial market was. MIDDLE: the new speculative developments with new shops and market area. RIGHT: the new covered market area with official grocery sellers. © Tomaz Pipan, 2013.....	191
Figure 6-55. LEFT: the luxury box factory. MIDDLE: the products of the factory. RIGHT: finishing and polishing of the boxes. © Tomaz Pipan, 2012.....	193
Figure 6-56. The entire industrial compound. Left side rented by the luxury box factory, right side by a different entrepreneur and industry. © Tomaz Pipan, 2012.....	193
Figure 6-57. The industrial compound is shared between two different producers. © Mariana M. Ferreira 2012, tutored by Tomaz Pipan. ....	194
Figure 7-1. LEFT: Russolo, Luigi : Dynamism of a Car, 1912. RIGHT: Umberto Boccioni Unique Forms of Continuity in Space 1913, cast 1972.....	209
Figure 7-2. Comparison of Highland Park (BOTTOM) with Shipai area (TOP). The size of the Ford plant takes a similar area as a few industrial estates in Shipai. © Google, May 2014.....	211

Figure 7-3. Aerial view of the Highland Park in 1923. ©Anonymous, courtesy of The Henry Ford .....	212
Figure 7-4. Magneto Assembly Line at the Highland Park Plant in 1913. ©Anonymous, courtesy of The Henry Ford .....	213
Figure 7-5. Ford Model T Assembly Line at the Highland Park Plant, 1914. © Anonymous, Courtesy of The Henry Ford .....	214
Figure 7-6. Stills from the movie "Modern Times". © Charlie Chaplin 1936.....	218
Figure 7-7. Various adds for house appliances in 1930s. © public domain, accessed at vintageadbrowser.com in February 2014. ....	219
Figure 7-8. General Electric Appliance Park in Louisville Kentucky. TOP: Aerial photo taken in 1975. © General Electric Company (GE). BOTTOM: Orthophoto of the area in 2014. © Google, May 2014 .....	220
Figure 7-9. Postcard: bird's eye photograph of the life in front the Highland Park plant. © Anonymous, circa 1920, courtesy of Walter P. Reuther Library, Wayne State University, accessed at www.greenlancer.com in May 2013.....	222
Figure 7-10. 12,000 Employees outside Highland Park Plant. © Vallin, C.R. 1913, courtesy of The Henry Ford. ....	223
Figure 7-11. Manufacturing #18 Cankun Factory, Zhangzhou, Fujian Province. © Edward Burtinsky 2005.....	223
Figure 7-12. Hudson's` store organization section. © Courtesy of Time Inc.1958: 36-37. ....	225
Figure 7-13. LEFT: Hudson's store organization section, detail. © Courtesy of Time Inc. 1958: 36-37. RIGHT: Hudson's store, circa 1960. © Anonymous, accessed at Google in May 2013.....	226
Figure 7-14. Comparing consumer life in Hudson's (left) and civic life in Qingming scroll (right), two fundamentally different topographies in terms of types of engagement. © Courtesy of Time Inc. 1958: 36-37; Zhang Zeduan, 1085-1145 respectfully. ....	227
Figure 7-15. Zongkeng administrative village, Shipai: Jiajiale Department Store on the left and local market on the right echoes the comparison in Figure 7-14. © Tomaz Pipan, 2012.....	227
Figure 7-16. The flow diagram of the materials and streamlined efficiency in River Rouge Plant. © Courtesy of Time Inc. 1940: 38.....	231
Figure 7-17. TOP: River Rouge Plant area. BOTTOM: outline of River Rouge plant overlaid over the Shipai topography. © Google, May 2013.....	232
Figure 7-18. Land use comparison between Detroit / Dearborn on the left and Shipai on the right. The land use differentiation is seriously reduced in the privately owned U.S. example whereas the plurality of land uses and ownerships remain in Shipai. Drawings are to scale. © TOP: Southeast Michigan Council of Governments 1995, accessed at www-personal.umich.edu in May 2013. BOTTOM: Guangdong Provincial Institute of Urban and Rural Planning, accessed at baidu.com in February 2014. ....	233
Figure 7-19. LEFT: Ford Motor Company ad for village industries in Life 1945: 17 © Ford Motor Company. RIGHT: Fordlandia as seen today from the Amazon river. © Emerson Muzeli, 2011, accessed at www.fordlandia.com.br in February 2014.....	234
Figure 7-20. Movie stills from the "Amazon Awakens" documentary © Disney, 1944. ....	235
Figure 7-21. Aerial view of Fordlandia in the Amazon forest. © Anonymous, 1934, accessed at Google in February 2014.....	236

Figure 7-22. Maison Domino: TOP: the basic principle, BOTTOM: sketch of its implementation. © Le Corbusier, courtesy of Fondation Le Corbusier, accessed at <a href="http://www.fondationlecorbusier.fr">www.fondationlecorbusier.fr</a> in February 2014.....	238
Figure 7-23. TOP: aerial view of the "Blumenlägerfeld" housing project in Celle, Germany. BOTTOM: a plan drawing of two living units. © Otto Haesler,1931, courtesy of Celle city archives. BauNetzWoche 2010: 10.....	239
Figure 7-24. Fordlandia cinema and dancing theatre, 1931. © Anonymous, courtesy of the Henry Ford. ....	240
Figure 7-25. The north wall of Diego Rivera's murals with its main depiction of the assembly line and the foundry. Detroit Institute of Art, 1932. © Diego Rivera 1932. ....	242
Figure 7-26. Different incarnations of Nativity of Jesus. LEFT: "Adoration of the Shepherds" by Gerard van Honthorst, 1622. MIDDLE: Christ Icon, 17th century orthodox monastery, Barkalabovskogo, Russia. RIGHT: Vaccination of a child, Diego Rivera 1932. ....	243
Figure 7-27. "MILLING MACHINE WITH A MIND OF ITS OWN. [...] With conventional machinery five men (top left)-toolmaker, product designer, tool designer, set-up man and machine operator - produced four units a day. The machine requires nine men and produces twelve units a day, sharply increasing output per man (top right)." © Time Inc. 1959: 32 .....	247
Figure 7-28. Cleveland Engine Plant. LEFT: new automated assembly line in 1952 © Anonymous, accessed at <a href="http://www.at.ford.com">www.at.ford.com</a> in March 2014. MIDDLE: Aerial drawing view of the plant no 2 where automation is controlled through the electronic switching board (RIGHT). Circa 1951. © Anonymous, curtsey of The Henry Ford. ....	247
Figure 7-29. "A RELIEF FROM DRUDGERY IN BANKS. The \$217,400 Visual Record Computer [...] does work of 31 bank clerks. [...] VRC automatically reads, sorts, records 15,000 checks a day- about the number drawn on a middle-sized bank" © Life Inc. 1952: 37.....	248
Figure 7-30. Draining of work from Detroit was met by fierce opposition by local unions. Ford workers gather outside of the UAW / Ford organizing headquarters, possibly during the 1941 strike, Detroit, Michigan. © Anonymous, 1941, courtesy of <a href="http://reuther.wayne.edu">reuther.wayne.edu</a> accessed in November 2013. ....	249
Figure 7-31. LEFT: First Containership, Ideal-X, 1956. © Anonymous, accessed at Google in May 2014. MIDDLE: Malcom McLean at railing, Port Newark, 1957 © Anonymous, accessed at Wikipedia in March 2014. RIGHT: First container system on trucks. A pair of McLean Trucking Co. GMC's at the Ft. Lee diner in 1955. © John Mason, courtesy of Fred Gruin Jr. Collection, accessed at <a href="http://hankstruckpictures.com">hankstruckpictures.com</a> in May 2014.....	250
Figure 7-32. Race Riots in Detroit, as whites ban coloured from new homes in U.S. housing unit. The loss of work and dispersion of affluent educated class had a profound effect on racial conflicts. © Times Inc. 1942: 40-41. ....	254
Figure 7-33. LEFT: Sigurd Varian, Russell Varian, David Webster, John Woodyard, and William Hansen inspecting the first klystron amplifier. © Anonymous, courtesy of Stanford News Service. MIDDLE: Varian Associates first offices and research labs in 1953 when the Stanford park opened. The research office was built as a school if the venture failed. © Anonymous, accessed at <a href="http://paloaltohistory.com">paloaltohistory.com</a> in May 2014. RIGHT: Russell and Sigurd Varian with the V-42 klystron used in ultra high-frequency (UHF) television transmission, circa 1953. © Ansel Adams, accessed at <a href="http://www.cpii.com">www.cpii.com</a> in May 2014.....	256
Figure 7-34. LEFT: type-writer plan of the infrastructural expanse of No-Stop City. RIGHT: Model of the infrastructural expanse of No-Stop City. © Branzi 2006.....	260
Figure 7-35. Flawless infrastructural execution of Silicon Valley for the economic efficiency. © Anonymous, circa 1980s, accessed at Google in May 2014.....	261

Figure 7-36. Suburban housing in Silicon Valley, San Jose, California close to the Villages Golf & Country Club. © Google, May 2014.....	262
Figure 7-37. Image of ideal nuclear family life in suburbs. An ad for Metropolitan Life Insurance company in 1958. © Anonymous, accessed at vintageadbrowser.com in February 2014.....	264
Figure 7-38. LEFT: Region of north Italy part of the "Third Italy" © Tomaz Pipan RIGHT: A typical landscape of the Third Italy in Veneto region, 50 kilometres out of Padua with interlocking industry, agriculture and towns. © Google, May 2014.....	266
Figure 7-39. The sedum roof of the F 105 truck production plant called Ford Centre (foreground) with the proposed greening of the rest of the area. © McDonough + Partners. ....	274
Figure 7-40. Two aerial views of the area around 105 Truck factory with its sedum roof and other ecological systems like permeable paving and water collection. © McDonough + Partners. ....	276
Figure 7-41. LEFT: aerial view of the sedum roof © Ford Motor Company, n.d. RIGHT: Collection and distribution of water in the sedum roof area. © McDonough + Partners, 2011.....	276
Figure 7-42. Location of Ford Center and its sedum roof in reference to River Rouge complex © Google, May 2014.....	278
Figure 7-43. Location of School of Medicine and CCS campus in respect to Detroit Downtown. © Google, May 2014.....	280
Figure 7-44. Size comparison between River Rouge Detroit (lef) Shipai China (middle) and Highland Park Detroit (right). The industrial grounds of River Rouge could fit three administrative villages in Shipai or a sizable chunk of Detroit with Highland Park and adjacent housing. © Google, May 2014.....	283
Figure 7-45. Shinola's Detroit flag ship store © Shinola, accessed at Facebook in May 2014. ....	286
Figure 7-46. The branding campaign and marketing images for watches with portraits of the watch maker to add to the exclusivity of the product. © Shinola, accessed at Shinola.com in May 2014.....	286
Figure 7-47. The branding campaign and marketing images for bikes with portraits of the mechanic to add to the exclusivity of the product. © Shinola, accessed at Shinola.com in May 2014.....	287
Figure 7-48. Decamping housing stock in Detroit. Figure – Ground diagram of housing stalk shrinkage. © Richard Plunz,Plunz 1999. ....	289
Figure 7-49. "Future open space networks in Detroit include both larger landscape typologies and landscape development types integrated within neighbourhoods. Landscape typologies each include a variety of different kinds of landscape development types." DFC 2013: 28.....	292
Figure 7-50. "The long-term transformation of Alternative Use neighborhoods hinges on the re-imagination and reuse of vacant land for productive uses or, where there is excess vacant land, returning it to an ecologically and environmentally sustainable state. Large contiguous areas should be assembled under public control for future disposition and productive reuse." DFC 2013: 261.....	292
Figure 7-51. North Cass community garden, Midtown, Detroit, Michigan, USA. © Martin 2013: 8.....	294
Figure 7-52. LEFT: WWI-era U.S. victory poster.© Anonymous, 1918, courtesy of Library of Congress. MIDDLE: A victory garden in a bomb crater in London during WWII. © Anonymous n.d, courtesy of Franklin D. Roosevelt Library New York. RIGHT: Victory garden poster, World War II. ©Morley,1945, accessed at Wikimedia in May 2014.....	296
Figure 7-53. Slows Bar BQ, Corcktown, Detroit, Michigan, USA. © Martin 2013:6. ....	299
Figure 8-1. Aerial view of current condition in Shipai. © Tomaz Pipan.....	317

Figure 8-2. Shipai after FDI abandons the area. Whole swathes of land become brownfields and fall into disuse. Majority of land is too polluted to use, some is used for gardening. © Tomaz Pipan.....	318
Figure 8-3. The Eco-Industrial park area is full of new speculative investment, the existing areas of regional corridor and local topography (upper-right quadrant) become more intensively built in comparison to current condition in Figure 8-1. © Tomaz Pipan.....	321
Figure 8-4. Speculative investments in the Eco-Industrial park, artistic impression. © Tomaz Pipan for the MA thesis, 2008.....	322
Figure 8-5. Artist's impression of research and high-tech industrial production cluster with offices and industrial buildings at the back © Dongguan Eco-Industrial Park investment guide 2011: 22 .....	323
Figure 8-6. Shenzhen intense developer-led landscapes, where land capitalization is the only measure of value. © Google, April 2014.....	325
Figure 8-7. LEFT: Ganghua Hi-tech Park, Shenzhen. CENTRE: Luohu district Industrial Park, Shenzhen. RIGHT: Gated community, Shenzhen. © Google, April 2014.....	326
Figure 8-8. Gangxia urban village in Shenzhen. © LEFT: all_my_loving, panoramio.co, accessed at panoramio.com in April 2014. RIGHT: Google, April 2014.....	327
Figure 8-9. LEFT: Nail houses – last villagers that have not yet given in to developer pressures. Yangji Village, Guangzhou, China. © Author unknown, accessed at news.163.com in April 2014. RIGHT: Nail house with its garden allotments occupying a lane of the highway – the land ownership of the villager is used for civic protest. Jinhua City, Zhejiang, China. © Author unknown, accessed at news.house365.com in April 2014.....	328
Figure 8-10. Masterplan of a dispersed strategic development for Shipai. Industrial production, FDI and development of local villages are combined. Education hub in the village and yarn factory within the Eco-Industrial park is combined with a dislocated department of University for research. "Dongguan Organic Cotton" student project, 2012. © Anna Regner, Iwetta Makarewicz, Mariana Ferreira, tutored by Tomaz Pipan.....	330
Figure 8-11. Metabolism of the sustainable strategic plan for the Shipai area where foreign investment in Eco Industrial Park is augmented by university research and product opportunities in collaboration with local villages through their know-how, labour and education. "Dongguan Organic Cotton" student project, 2012. © Anna Regner, Iwetta Makarewicz, Mariana Ferreira, tutored by Tomaz Pipan.....	332
Figure 8-12. Industrial hub for yarn factory combined with vocational school and research centre for new cotton strains. Local Hub with management school for SMEs and tailoring vocational school. "Hemp In" student project, 2012. © Mirka Bergk, Julia Domanska, Stefanie Lennartz, Charlotte Reh, tutored by Tomaz Pipan. Additionally reworked by Tomaz Pipan for purposes of this illustration. ....	333
Figure 8-13. LEFT: Local hub with school RIGHT: Eco-Industrial Park cotton fields combined with eco-tourism. "Dongguan Organic Cotton", student project, 2012. © Anna Regner, Iwetta Makarewicz, Mariana Ferreira, tutored by Tomaz Pipan.....	334
Figure 8-14. LEFT: Foxconn Shenzhen campus in 2007. © Dean 2007. RIGHT: Foxconn Shenzhen campus in 2014. © Google, May 2014. ....	344

## *Preface*

### ***I. Abstract***

This dissertation explores the reciprocity between technology rendered as industrial production and ethical civic culture in the contemporary urban condition, where the meaning of cities becomes predominantly oriented towards utility and efficiency. The research takes as its main case study Shipai township in Dongguan, the latter being one of the most famous stories of rural industrialization in China. The process of rural industrialization radically transformed coastal China in a mere thirty years and created an endemic topography with mixed horizons of reference and commitment, ranging from traditional to techno-capitalist registers. This fractured and fragmented condition represents a rich reference to explore one of the fundamental problems of contemporary city – how to reconcile a split between technology – its capacity for civic commitment – and the ethics of urban culture. The two main questions the dissertation sets to address are as follows. What are the limits and capacity of technology rendered as industry to support an alternative more ethical civic order? What is the capacity of an industrial civic order to accommodate sustainable change and transformation of a territory for different participants?

The dissertation compares the most current incarnation of industrial city in China with historical precedents such as Detroit, Silicon Valley and Third Italy that reveal a cyclical rise and decline. Comparison is crucial in order to speculate on possible futures of industrial city as such, and to consider the unique capacities of industrial city in the Pearl River Delta – its local self-governance based on traditional rites and norms and split between grassroots and central governance. This dissertation's contribution to knowledge is tri-partite. Firstly, it offers a new understanding of the composite topographic order in Shipai, where references orbit around techno-capitalist and traditional topics at the same time. Secondly, it uses speculations on Shipai's future, based on the comparative case studies, to clarify the historical nature of a civic industrial order. The results of this, thirdly, allow us to offer a hypothesis regarding a set of conditions which support a civic industrial order capable of gradual transformation and sustainable change.

---

## **II. Acknowledgements**

Firstly, I would like to thank my lead supervisor Professor Peter Carl for his unconditional support and depth of insight. I am truly grateful and feel privileged to share in his knowledge. Also my thanks go to other supervisors; Signy Svalastoga and Dr. Ilka Čerpes. In addition I would like to thank Professor Raoul Bunschoten to enable me to combine teaching with this PhD research and LTP course as part of the VC Scholarship requirements.

My sincere thanks go to all my colleagues and collaborators from the Chinese Hong Kong University and the Hong Kong University who helped me prepare the trips and were great hosts as well as an insightful source of local information. From the Chinese HKU I would like to thank Associate Professor Wang Leung Thomas Chung and student Ding Tim Qiang. From the HKU I would like to thank Associate Professor Joshua Bolchover and PhD candidate Calvin Liang.

A depth of gratitude goes to the students at Technical University Berlin whose energy and dedication to their work was inspiring. These are: Anna Regner, Iwetta Makarewicz, Mariana Ferreira, Mirka Bergk, Julia Domanska, Stefanie Lennartz, Charlotte Reh, Kristin Krause, Konstantina Maltezou, Rawan Massood and Goran Vukčević.

Last but not least, my most profound thanks go to Jane Clossick for her sharp eye, patience and depth of understanding required for final editing of this dissertation.

This doctoral research was financially supported by the Vice Chancellor's Research Scholarship from London Metropolitan University covering all the tuition fees and by the Ad-futura Scholarship from the Slovene Human Resources Development and Scholarship Fund covering part of my living expenses.

Nenazadnje bi se rad iskreno zahvalil moji družini za brezpogojno podporo. Očetu Ivanu, mami Irmii, bratu Matiji in pa tudi teti Poloni. Iskrena zahvala gre posebej strari mami Ivani. Obenem se zahvaljujem Ani in Knutu.

To delo posvečam Antonu Jagodicu, mojemu staremu očetu.

### **III. Declaration of Authorship**

The PhD builds upon analysis material that was part of my MA design thesis "Peri-Urban Nodalities" completed in 2008 at the Architectural Association, School of Architecture. The materials, mainly drawings, are appropriately referenced.

By the Vice Chancellor's Scholarship I was obliged to complete the Learning and Teaching Practice Course at the London Metropolitan University. Course task was developing a teaching curriculum through practice of teaching as part of the PhD and was successfully executed with the help of Technical University Berlin. The results of this teaching practice are student drawings under my tutelage that contribute to this PhD. Research through teaching and practice is further explained in chapter 4. All student work is appropriately credited and students gave consent to use the work.

I have not submitted any part of the work referred to in this thesis in support of an application for any other degree or qualification of this or any other university or other institute of learning. Material included in this thesis has previously been included in the following publications and public events:

- Pipan, T 2010, 'Embedded Spatial Intelligence: Inherent Potential of Peri-Urban Fabric in China', *As Found, World in Denmark Conference*, June 2010, Copenhagen, Denmark
- Pipan, T 2012, 'Resilient Topographies in Pearl River Delta', *Urban Sustainability and Resilience Conference*, November 2012, University College London, London, UK.
- Pipan, T 2013, 'Territorial Compromises: Limits of Morphological and Civic Negotiation', *Within The Limits of Scarcity: Rethinking Space, City and Practices Conference*, February 2013, University of Westminster, London, UK.

#### **Statement of Length**

This thesis, including footnotes and references but excluding captions, appendices and bibliographies, contains approximately 92,000 words. The limit for a PhD by thesis, set by the Research Committee of London Metropolitan University is 80,000. The additional length is due to the need to supply a significant amount of background information on Chinese culture. This extension was approved by the JCAAD Research Student Progress Group (RSPG) meeting on 22<sup>nd</sup> of June 2014.

#### **Declaration of Ethics**

I confirm that research ethics approval from London Metropolitan University was obtained for this research study in the first year of study (2011). All the interviews on the location were done anonymously and interviewees were aware of the nature of the research thesis and gave oral consent.

Tomaž Pipan

London, July 2014



## IMAGING SERVICES NORTH

Boston Spa, Wetherby  
West Yorkshire, LS23 7BQ  
[www.bl.uk](http://www.bl.uk)

**PAGINATED BLANK PAGES  
ARE SCANNED AS FOUND  
IN ORIGINAL THESIS**

**NO INFORMATION IS  
MISSING**



*PART A. Introduction*

*Figure 1-0. a. Pearl River Delta and location of Dongguan prefecture city region. b. Location of Shipai township within Dongguan. c. Orthophoto of the immediate research area in the Shipai township. © Initial imagery: Google, January 2007*

## 1. Dissertation Overview

The main topic of this thesis is the city as a receptacle of culture. It is a search for the conditions by which an industrial urban topography might support a rich ethical or civic order. It examines the transformation of industrial cities in history, based on technology, and how these transformations can be meaningful in ways other than economic utility.

The conflict between industry and civic values has been the subject of debate in the West since the mid-18<sup>th</sup> century. The problem has grown and evolved in the era of global industry and economy and presents unique challenges, to which no viable solution has yet been proposed. This piece of research explores the topography of industry and civic culture in 21<sup>st</sup> century Shipai in Dongguan, China (Figure 10) and compares it with the industrial rise and decline of 20<sup>th</sup> century industrial cities, particularly Detroit. The purpose of this comparison is to speculate about possible and potential futures for the civic economy in Shipai. The thesis provides a new framework and terminology for the interpretation of the relationship between civic culture and technological industry – as opposed to the craft and guild structures of traditional cultures.

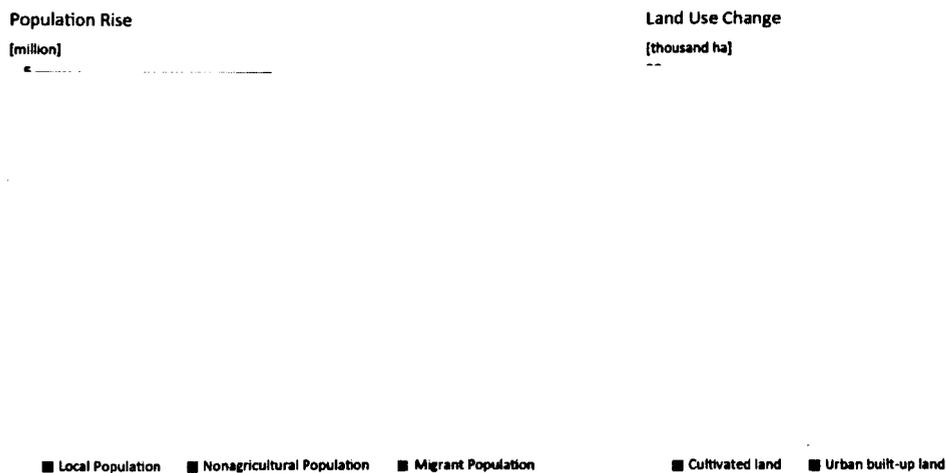


Figure 1-1. LEFT: Population make-up and rise in Dongguan. RIGHT: Land Use transformation due to rural industrialization in Dongguan.  
© Drawn by Tomaz Pipan. Source: Compiled by Lin 2006 from Dongguan Statistical Bureau, 1998: 234-239 and 2003: 59-62.

Shipai is a township-level administrative region in Dongguan and occupies a small segment of the vast Pearl River Delta (PRD) development that has been recently transformed from rice paddies and villages to a topography dominated by factories and transport. In 1980 Shenzhen in the PRD was the first village designated as a Special Economic Zone (SEZ) whereby it was granted special economic dispensations and policies to attract foreign investment. By 1988 the entire Pearl River Delta was designated a special economic region. Dongguan is one of the most famous cases of rural urbanisation as from its accession to the special economic status in 1985 it changed profoundly in terms of its topography (Figure 1-1, left) and growth of urban area (Figure 1-1, right).

## **OUTLINE OF THE THESIS**

Part A (this section) establishes the problem, and seeks a framework for understanding how technological production can participate in an ethical interpretation of civic order and urban culture. The important terminology and ideas needed to understand the phenomena under examination come with multiple, sometimes divergent meanings. These terms include "city", "civic culture", "nature", "technology", "economy", and, most symptomatic in architecture, "space" and "form". Rather than undertaking an historical overview of these different meanings and trying to position our own understanding, the argument is based on descriptions of architectural and urban circumstances through concrete examples. Understandings from other disciplines such as history, economics, sociology, anthropology and so forth are used to clarify the background framework within which architecture and the city is set. The contested terms are then clarified and refined as the thesis progresses, and a brief historico-philosophical outline of the main themes is undertaken in chapter 2.1. This provides an initial basis for interpretation, relevant insights and material for subsequent refinement, with a summary of findings for key terms in the conclusions. The primary interpretation is conducted through architecture and its philosophical understanding.

Part B is in-depth topographical reading of Shipai in order to understand concretely the connection between remnants of local tradition and contemporary industrial transformation. It establishes that this is a more complex and nuanced domain than is generally understood in architectural writing (for example, Koolhaas and Chang 2001). It is summarized in the last section of Part B as a composite order or an order of negotiation between traditional and techno-capitalist structures.

Part C looks more closely at the nature of urban industrial production and its agency in regard to civic culture by examining the main "quality" of industrial cities – their propensity for rise and decline. The objective here is to look at historical precedents of rise and decline in order to assess how Shipai might cope with what seems to be an inevitable trajectory, promoted as a virtue in J. Schumpeter's concept of "creative destruction" (1942: *Capitalism, Socialism and Democracy*). To the main example of Detroit and its relation to the automobile industry are added other models of urban industrial metabolism, most notably Silicon Valley and Third Italy, in order to understand the scope and limits of collapse, adaptation and renewal. After the economic crisis in 2008 that profoundly affected the PRD, it seems that the recovery response is a return to the pre-existing strategies, rather than using the shock to speculate on a more sustainable metabolism (Bolchover and Lin 2014: 45).

Part D brings together the results of Parts B and C and speculates on the future transformation of Shipai. It then outlines a set of conditions that are needed to allow for a more ethical and sustainable civic order based on production and industry, the hermeneutics of ethical urban industrial culture.

## 2. Framework

### TERMINOLOGY

Initially, we need to classify at least two important terms, namely *topography* and *order*.

The word *topography* will be used in its classical sense, rather than the more pervasive contemporary "scientific" meaning that denotes the geographical physical measurement of the terrain, its relief, natural and artificial features. A more appropriate naming for this scientific field would be *geomorphometry* – a science of quantitative surface analysis.

The word *topography* will instead be used in a philosophical sense. Literally, topography is translated as place-writing: *topos* comes from the Greek word τόπος meaning *place*. We understand a "place" as a situated locale with all its cultural, historical and physical qualities. The philosophical understanding of *topos* is by way of *graphia* (γράφω *graphō*) – writing about it. "Writing" has a narrative power to describe the underlying order of phenomena in the city. Writing together with other ways of communication invokes hermeneutics – revealing of meaning through interpretation; in our case of places within the city. In turn, proper understanding of these phenomena requires a stratified "writing" about the practices in the city which we follow through the ideas of Heidegger, Merleau-Ponty and Vesely. The point is that hermeneutics arises from the whole stratification of experiences, conditions and praxis, and is, in that sense, part of urban order, or one of its possibilities<sup>1</sup>. Therefore, *topography* is a study of places through hermeneutical investigation to understand their connectedness to culture and the people. This is achieved by "writing" about and interpreting them historically and culturally as well as physically, economically, politically and so on.

The other contentious term is *order* (Kuntz 1968). Architects tend to speak of anything with a visible geometric character or a pattern as "order"; but even a rubbish-tip or jungle exhibits a recognisable order. Explaining the order of something lets us articulate its meaning, and this is the basis of its communicative power. With regard to place and urban topography, and taking the theoretical position of phenomenological hermeneutics (see chapter 4), we can only understand something through situated experience in the world – through "Dasein" (Heidegger 1962)<sup>2</sup> – and through the continuity of these experiences between articulation and embodiment. As Vesely puts it: "*the only absolute is the situated human body and its capacity to constitute coherent space. [...] The critical phenomena in the formation of space are temporal and spatial continuities of experience.*" (Vesely 2004: 48) Only

.....  
<sup>1</sup> Please refer to chapter 4 Methodology for description of this stratification.

<sup>2</sup> For further explanations about how hermeneutical phenomenology is used please refer to chapter 4 Methodology.

through that can we describe and make things meaningful and consequently derive an order. This is why topographical order is described here through local conditions and concrete examples, based on site visits – to situate the problematic of the city in everyday practice. To understand topographical order from the architectural perspective is to understand how we as humans conduct ourselves and make our communal existence meaningful, or "*what the book is to literacy, architecture is to culture as a whole*" (Vesely 2004: 8).

## 2.1. Definition of the Framework

This dissertation explores the reciprocity between technology rendered as industrial production and ethical civic culture in the contemporary urban condition, where the meaning of cities becomes predominantly oriented towards utility and efficiency.

Under a variety of concepts – "neo-liberal", "gentrification" and "master-planning" architects observe the transformations of traditional cities and the commercial, superficial qualities of contemporary ones (for which another concept – "public space" – is inevitably the response). Similar conceptual simplifications can be found in "ecology", where, more often than not a generalization called "nature" is portrayed as being exploited and misused by human agency. A good example is the codified abstracted representation in which nature is depicted in urban plans – green for plants, blue for water, grey for buildings. Maps and bird's-eye views are important mechanisms that support one of the most pervasive abstractions – "space". Such generalizations (space, ecology, sustainability) simplify the difficult concrete circumstances of particular situations and flatten the problem, making it easier to manipulate through design (where all transformation is necessarily visual and typically concerned with form). This practice of abstraction leads to remediation ideas such as "sustainability" – a conceptual answer that is supposed to help rid the world of problems ranging from the ecological to the social.

The inadequacy of much terminology arises from imprecise, abstract conceptual over-simplifications that allow a plurality of meanings that refer only to themselves, suppressing the actual conditions and problems of the city. Therefore the topics addressed in this thesis will be discussed through a brief hermeneutic historical description, rather than through definitions and citations (as that would get us back to the initial problem). In other words, our four main topics of research City, Culture, Nature and Technology will be framed in the following paragraphs.

## PURPOSE OF THE CITY

Within the question of the city, our main concern is with the type of being the city supports. This begs a question about civic order – who has the freedom to shape the city? We first have to discuss types of cities and their topography, to understand their differences in terms of urban order. Three types of urban order are sufficient for our purposes, first: Aristotle's account of the Greek polis, second: the late medieval city-republics of North Italy, and third: the contemporary metropolis. As it happens, these three types of city are those that appear in Western philosophy (Carl 2014).

We begin with Aristotle's *Politics* (the dates of Aristotle's writings are a matter of some dispute – for our purposes, they may be taken to have fallen between c. 347 BCE, when he left Plato's Academy, and his death, in 322 BCE), the first known attempt to characterize a "good city" (as opposed to mythic or sacred), where basic subsistence requirements like location, defence, provision of food and water create a meaningful world of engagement based in democratic politics, whose purpose culminated in self-understanding, termed the "*bios theoretikos*". In this interpretation, the life of the city was inextricably linked to the philosophical and ethical practice that in turn was rooted in references to the natural world and ultimately the place of humans in the cosmos. Aristotle's account of the city – the polis – can be seen to move between four important spheres: firstly ethics; a discourse on political and ethical understanding (*The Politics, linked to the Nichomachean and Eudemian Ethics*), secondly nature; different types and modalities of that concept as "*physis*" (*Physics*), thirdly an analysis of the modes of discourse appropriate to different levels of understanding (the *Organon, Topics* and *Rhetoric*), and finally meaning and profound understanding as an overarching theme that connects the practical and conceptual (*Metaphysics*) (Voegelin 1956: Volume 3). This shows a holistic conception of the city. Prior to the advent of the scientific method in the Enlightenment, "nature" was a richly analogical world rooted in the four temperaments, a framework that, through a rich matrix of reciprocities, allowed reconciliation of human being with a cosmic order (Bucklow 2009). Moreover, provisioning of goods was always closely connected to their origins in the natural world. This was reflected in everyday rites, ceremonies and practice ranging from provision of food to furniture to pots to clothes to buildings and furnishings to navigation of the trade routes which, since archaic times, had transmitted themes and even gods from one culture to another.

Figure 2-1. Athenian Polis 5<sup>th</sup> century BCE (reconstruction). The topography of the polis is intrinsically connected to its architecture and to mediation between cosmic, natural and human conditions. © Anonymous, accessed at [www.sikyon.com](http://www.sikyon.com) in May 2014.

Through this short description this type of city can be classified as one in which urban order is based on the interpretation of natural and cosmic conditions. In this understanding architecture comprises the settings for practice (Figure 2-1) that mediate between these fundamental conditions and everyday life through themes and topics that are common-to-all. Only through the communal is there a possibility of reconciling contested affairs of the city. This is similar to the traditional order in China, described in chapter 6.1.

By contrast to Aristotle, who rarely refers to architecture as such, Vitruvius' meaning of the city in *De architectura* (c. 15 BCE) is almost exclusively inscribed in the architecture – its planning, the organization and meaning of its elements, and its decorum. He hardly ever refers to the life of the city – the theatre, for example, is mostly geometry, as opposed to Aristotle, who in *Poetics* describes in depth the importance of theatre and understands it as an intrinsic part of polis life. The link between the human and the cosmic still exists in Vitruvius, however not in philosophy as practice of the urban order of the city (the *bios theoretikos*), but rather in the visual domain, grounded in the more abstract registers of geometry and mathematics.

We can trace this second type of the city from the Northern Italian cities of the late middle ages onwards. Here Humanism arose as a way to institutionalize urban conflict and was largely based on rediscovery of Classical authors such as Aristotle and Cicero. Architecture depended heavily upon Vitruvius, whose famous triad of *firmitas, utilitas and venustas* appears to derive from Ciceronian rhetoric of *utilitas, dignitas and venustas* (Cicero 55BCE [2011]: 178). Vitruvius' emphasis upon the

visual order (particularly *scenographia* and the three stage sets as typical settings for urban life) progressively dominated architectural thinking in Renaissance Italy.

It is important to recognise that, in the earlier Humanist period, these disciplines had a different character than their post-Cartesian, dominantly calculative version. Briefly, they are best understood as practico-philosophical, as medieval knowledge of optics testifies. "*Optics is not a geometry or 'physics of causation' of the visible world but a language of natural relations structured by geometry.*" (Vesely 2004: 127) This then leads to later Hellenistic visual culture where architecture and its decorum appropriates and reconciles fundamental cosmic conditions with the particularities of human history as a combination of Platonic and Pythagorean understanding of geometry and proportions. The basic premise is that the topographic (agonic) settings of square, street, cortile, salone were qualified according to Platonic-Pythagorean harmony and, through the agency of ornament, made to be appropriate horizons for the sophisticated political and social discourse of Humanism. This Humanist basis for civic culture begins in 14<sup>th</sup> century northern Italy and persists well into the 19<sup>th</sup>. An early example is the Piazza del Campo in Siena (Figure 2-2) with all of its surrounding buildings and their decorum acts as a constant reminder of the civic responsibility of the governors to the city. This is additionally personified by its role as a stage for political and public ritual and ceremony, such as the annual *Palio di Siena* (horse races amongst the *contrade*, into which the city was divided).

Figure 2-2. Piazza del Campo, Sienna, Italy, the heart of social and political life. © Anonymous, accessed at [www.ioamoviaggi.it](http://www.ioamoviaggi.it) in May 2014.

The strong overall shape of the piazza, for instance, with its relatively plain surface, as well as historical and mythical references, formed a robust framework for all manners of use. [...] the self-same size, scope, grandeur, public iconography, and program of the Campo was and remains a constant reminder to future governments and societies of their civic responsibilities. [...] the program, form, and symbolism of Piazza del Campo embraces everyday life, provided an appropriately formal setting for government, projected a sense of civic well-being [...]. Further, the Piazza del Campo amply provided a place for collective practices and rituals, like the pugna of old, the palio, and the passegio, as well a place for individual habitation experience. (Rowe P., 1997: 37-38).

This brings us to the third of our city-types: the contemporary city. Contemporary times are marked with a sharp decline of such visible and concrete structures to support meaning. With the onset of modern science in the Enlightenment, the dominant continuity of the cosmological order embodied in cultural institutions, ceremonies and practices became the subject of perpetual questioning and revision. By contrast to all preceding traditional cultures – where the individual was part of a cosmic whole – the Cartesian "*cogito ergo sum*" (Descartes 1637) inverts the relation, allowing definition of meaning to be based solely on human understanding. This started a condition of perpetual challenge to, and questioning of being, as a fundamental characteristic of the contemporary city.

The difficulty of understanding present cities in terms of the previous two examples is vividly remarked by Arendt (1958) for whom the present relation of natural conditions to politics is inverted from its description in Aristotle (see chapter 6.3). For Arendt the Aristotelian city has the character of living within its natural conditions – and their embodiment in ceremony and rite – for the sake of deep political understanding (the *bios theoretikos*); whereas the contemporary city uses political skills and practices to manage the utilization of resources for well-being (as freedom) for the individual as consumer (themes explored in chapter 7). Contemporary politics is less a sphere for the realisation of the meaning of being human than it is a practical and instrumental task or project concerned with topics like the economy, labour relations and public health. These contemporary innovations bring about a specific urban order based on yet another innovation, called "society" that more often than not is little more than the aggregate of individuals with obscure political powers, aspirations, freedoms or practices (chapters 6.2 and 7.3 address this issue).

This topic raises questions of "freedoms" and "rights". For this, we give Nietzsche's distinction between "freedom-from" and "freedom-for" (Nietzsche 1883: I-17). Freedom-from represents liberty, the absence of oppression or other limitations of individual freedom. Freedom-for assumes the citizen's freedom and asks about the nature of one's political and ethical responsibility to the civic order (for the Athenian polis limited to male citizens). The argument framed as rights – such as "the right to the city" of Lefebvre – is rooted in freedom-from; however even if the idea is noble, the right

to the city in terms of unfocused uncommitted right is only a lofty idea; deeds and practice of that right, taken as responsibilities, is the only way to assure that right to have its appropriate voice. The following comparison between the two is given rather starkly by Friedman:

The belief that citizenship somehow confers individual rights (whatever they may be) is a distinct Western and more specifically American conception. Although political theorists remind us that rights must be balanced by duties, the roster of citizen duties in Western-style democracy is quite short: to live within the law, to pay taxes [...] In China, the emphasis is the reverse of this: in a society still permeated by a Confucian ethos, where one's identity, based on the patriarchal model of the family, is determined by one's relations to specific others, obligations always come first, and privileges (rights?) second. (Friedmann, 2005: 91)

As a quick reference, we turn to an example of the European metropolis of the 19<sup>th</sup> century, whose deep urban blocks were able to sustain the close proximity of upper and lower class citizens. Berlin and Milan are examples where close proximity to sites of industrial production lead to architectural expression of industrial buildings as constituent parts of the urban decorum, such as Peter Behrens' Turbinenhalle for A.E.G. in Moabit, Berlin, 1909 (Figure 2-3). This obligation also developed through the high-rise offices and department stores of the new types of city during the first third of the 20<sup>th</sup> century (chapter 7.1); but whilst the iconography mixed the Humanist inheritance with a new respect for the workers in such sites as Rockefeller Centre, NYC, in the 1930's, the references to cosmic order and gods were replaced with functional rational thought at mid-century with the modernists (chapter 7.2).

*Figure 2-3. The Turbinenhalle for A.E.G. in Moabit, Berlin featured prominently as an integral part of the city fabric. Peter Behrens, 1909.  
© Google, May 2014.*

Therefore, this dissertation is a search for topographies and conditions that support the "freedom-for" commitment and practice of that commitment. Shipai in chapter 6 is studied in depth from this vantage point, and so are Western topographies in chapter 7. We are looking into the phenomenon of the contemporary city where metropolitan life and technology have created a species of alienated citizen (explored in chapter 7.2.2) detached from traditional references to nature. How can some of that situated capacity be regained in order to re-acquire freedom for commitment?

### **CULTURE AND THE CONTEMPORARY CITY**

The term "culture" became a concept in the eighteenth century (Williams 1958: *Culture and Society*) when the traditional hierarchical order of nobles and religious institutions began to decrease in importance due to a sharp rise in the scientific description of reality (Voegelin 1975, *From Enlightenment to Revolution*). Declining non-scientific aspects created a gap in meaning that had previously been filled by religion and philosophy. Culture became a term for the recovery of that lost meaning, largely achieved through making the important aspects of a culture into concepts (see chapter 7.2), so that, for example, religion became "the" sacred. "Nature" became divided between that which can be described through the scientific method and all the rest, which can be only characterized as fragments of tradition crystalized in themes like the "sublime" (Cronon 1996; see chapter 7.3.3). This divided world of nature – a consequence of primacy of contemporary natural sciences – is a problem Latour calls a discrepancy between "matters of fact" and "matters of concern" (2004: *Politics of Nature*). The question of the meaning of nature and science in this contemporary culture will be dealt with extensively throughout the dissertation, most profoundly in chapters 6.1 and 7.3.

A good example of a constructed cultural project is what this thesis refers to as the "first cycle of industrialization", described in the introduction to chapter 7.1. In short, "culturalization" of northern English cities during the first industrial revolution in mid-19<sup>th</sup> century can be seen as modelled on London – with town halls, civic libraries, museums, art schools and philanthropic programmes. Two main questions traced throughout Part B and Part C are a consequence of such a constructed culture; namely the problem of "community" and "society" that are a far cry from the political civic culture of the democratic polis described by Aristotle, or intense public city affairs of city-republics in North Italy. (Sennett 1947: *The Fall of Public Man*; Arendt 1958: *The Human Condition*; Rowe P. 1997: *Civic Realism*). It seems that the condition this constructed culture amounts to makes, for example, nobody in London directly responsible for what might be termed "civic culture". All that is themed "civic" can be attributed to the work of planning officers sitting at desks in borough council offices, dealing with efficiency and safety issues, some aesthetics, but mostly cost-benefit calculations. The only stake in city politics accessible to the wider "public" is abstracted into policies and regulated by

law in the form of "Section 106" agreements and the "Community Infrastructure Levy". These, at the best of their capacity, translate to provisions for good "public space".

The "cultural project" of the contemporary city is still not reconciled and 150-year-old concerns about the meaning are still relevant. Contemporary cities augmented by a vast increase in size (Burdett 2007: *The Endless City*; 2011: *Living in the Endless City*), are being perceived as instruments of global capitalism (Sassen 1991: *The Global City*; 2012 [1994]: *Cities in a World Economy*). On the other hand, we have cultural projects of recovery of ethical civic topography by C. Rowe (1977: *Collage City*) and Rossi (1982: *The Architecture of the City*), both largely rooted in nineteenth century European cities, still serving as an ethical compass for architects, although not for planners or developers. On the other side we have the vigorous embrace of the delirious contemporary city of global capitalism (Glaser 2011: *Triumph of the City*; Koolhaas 1978: *Delirious New York*) resting on Venturi, Scott-Brown and Izenour's *Learning from Las Vegas* (1972). Here the term "popular culture" is imported from the anthropology of traditional cultures and deployed in a context of advertising, marketing and branding, creating a cacophony of symbols and representations to conjure up meaning and order. In this new world the representation (sign) becomes the initial reference replacing the reality in what Baudrillard describes as a four-step process to a pure "simulacrum" (1994: *Simulacra and Simulation*). One of the most useful recent summaries of approaches to understanding the city, that of Amin and Thrift (2002: *Cities: reimagining the urban*) sets the scope of the problem – without attempting to reconcile, for example, Pragmatist civic values with "the city of flows" – and is referred to extensively in this thesis.

This brings us to the main problem of culture as a theme – the question of culture has become detached from civic questions of politics, which previously constituted the main purpose of the city. Culture has become fractured and no singular interpretation prevails, such as we see below in reference to nature. The concept of institutions cuts across this fractured urban reality. They give us an operable topic that can bridge tradition, culture and science.

## **INSTITUTIONS**

The importance of institutions lies in their anonymity, their commonality to a culture, which needs to be acknowledged by all the participants in the city. Accordingly one may speak of "*institutional horizons by which collaboration is possible*" (Carl 2014) and therefore a possibility to structure conflict and collaboration – hence the culture. In order to better situate the issues of culture and the fragmented dispersed world, emptied of civic politics, we turn to a politico-economic description of cultural possibilities and limitations.

As the comparison is cross cultural and the main case study in China, *Violence and Social Orders* (North et al.: 2009) offers an appropriate description that cuts across cultural and historical boundaries. North et al. use the term "society" to stay culturally unbiased, taking Arendt's critique of society as aggregate of individuals and turns it into an advantage. They refer to two main orders on basis of which social order (as opposed to violence) is created and maintained. The first of these is "the natural state" or "limited-access" order where symbolic hierarchies of traditional culture are the basis for the "rule of rites". Within this order the problem of violence is solved by rent creation. Individuals and groups with access to violence have incentives to cooperate in order to increase rents. The political system is created where elite cooperation bring about social stability. Relationships are personal, and access to important organizations and institutions is limited to elite exclusive affiliations. For example, the same families of Rome or Florence, from the Middle Ages to the eighteenth century, supplied both the main civic and religious offices. This form of social order developed in hunter-gatherer tribes, and in early cities, and persists up to the present in, for example, China (refer to chapter 5.1.2). It can range in benevolence from tyranny, to the dominance of oligarchs in the pre-Revolutionary republican cities, to state-managed economics (again, like China). One important consideration is that the symbolic order of traditional culture, where rulers and priests "create meaning" through divine order is only possible in a "natural state". This fundamental insight exposes the cultural problem of the contemporary city and its ethical interpretation. To the "limited access" state North et al. contrast the "open-access" state based on the "rule of law" that developed in Western Europe and North America in the 18<sup>th</sup> and 19<sup>th</sup> centuries. Here, all citizens are subject to same law (including kings and bishops) and have a vote. Citizens have the ability to form contractual organizations that can operate outside the scope of the political elites. These organizations can range from knitting clubs, to charities, local government, all the way to multinational companies. Social order is created and sustained through both economic and political competition and a rich political civil society. In addition, one of the most important features is "impersonal exchange" and "impersonal benefits" as opposed to the elite system, where these are only available through personal connections. Parts of the North et al. argument are challenged in chapter 7.3 and revised in chapter 8.3 of the thesis.

Just as there are variations of natural states – we can speak of China as a "mature natural state" – there is yet to be realized a pure form of open-access state (demonstrated by, for example, the recent bailouts of failed banks and companies in the U.S.A. and Europe).

## NATURE AND TECHNOLOGY

Contemporary fragmented reality promotes multiple interpretations of nature, all apparently of equal value (usually utilitarian). *Uncommon Ground* (Cronon ed.: 1996) devotes several essays to demonstrating that "nature" is a cultural construct, therefore dependent upon a variety of judgments, or even kidnapped by individual institutional "factions" and hostage to individual interpretations. An example is the opposing use of "paradise" by the ecologist and by the developer. Latour refers to this problem as "the matters of concern" when every claim can be contested and should be part of open discussion where all constituencies, human and non-human, have a voice and equal right of representation (Latour 2004). Taking in the sheer scope of this fragmentary condition of references to "nature" it is hard to use this state of nature as an objective reference, for reason or for ethical and moral orientation (something that was possible in traditional cultures). Therefore it is necessary to find a discourse in which the meanings of nature are understood institutionally. Here, the city is taken as the common ground for this reconciliation, within which we search for possible common-to-all topics. In chapter 7 we investigate how economy and utility serve as such and chapter 8.3 proposes alternative common-to-all grounds; other than that of utility.

Something similar could be said of "technology", which, since Romanticism has been portrayed and evoked as an alternative, or even a replacement for "nature" (extensively covered in chapter 7). We can again refer to the *Politics of Nature*, where Latour points out how scientific reason based on technology is always taken as a priori fact, without questioning its value or morality. Latour portrays the classical fact-making capacity of science as being detached from culture (outside questioning its validity); and he cautions that it is hard to dismiss all the accompanied institutional life that comes with scientific announcements of the "truth" such as research culture (where academics disagree – e.g., the "Climategate" controversy), funding (where politics and the economy play important roles in deciding what will be researched), analysis, critique, legal debates, national educational programmes as well as marketing and trade agreements (Latour 2004: 35). Since Heidegger, a considerable amount of work has been done on understanding the procedure and topography of the institutional life of technological culture, to understand how these insights are agreed upon and stabilized (Pickering 1995). Moreover, there is nothing of this work that is not involved with nature in the first place; on the contrary – as Latour would argue – everything is the "politics of nature". In addition, Heidegger has a point about what he terms the "*Ge-stell*" (1977; discussed in chapter 6.2), the conceptual framing of nature and culture that creates a fragmentary formatting of reality that misses out important parts which allow a more holistic interpretation of Being. This crucial omission – what Heidegger terms "forgetting" – is something that traditional "natural orders" (involved in a whole spectrum from religion, geomancy, and philosophy to politics and "science") were much better equipped to deal with. Contemporary culture can never regain such a rich continuity of meaning but this dissertation deals

exactly with this problem, and looks at possibilities to reframe meaning in a more holistic way, to discover if a reciprocity of industry and the city is perhaps the medium within which this is possible.

Now that we have readied our themes within a historical and hermeneutical framework, we can attend to the synthesis and formulation of the overall topic. This provides the outer limits and an overarching framework within which this dissertation is conducted and should be judged. This is an architectural enquiry into the meaning of the city, so it is primarily interested in the agency of architecture and its capacity to contribute to addressing the topics evoked above.

## 2.2. Definition of the Main Topics and Criteria of Judgment

We are interested in the problematic of urban order in general, and of the reciprocity of urban and industrial orders in particular. These have apparently been emancipated from a collective orientation to profound meaning and ethics, as a consequence of the atomization of the "public" sphere and retraction of urban order from civic and political practice, that historically facilitated commitment. Nature as a topic is considered as a historical reference that carries agency for meaning and ethical human conduct and technology is considered as being frequently framed as nature's proxy and a potential salvation from human finitude.

How do all these topics fit together, how can they find a common ground in architecture, and how can architecture address the problems discussed?

Along with the public world, the *environing Nature* [*die Umweltnatur*] is discovered and is accessible to everyone. In roads, streets, bridges, our concern discovers Nature as having some definite direction. A covered railway platform takes account of bad weather; an installation for public lighting takes account of the darkness, or rather of specific changes in the presence or absence of daylight – the 'position of the sun'. In a clock, account is taken of some definite constellation in the world-system. When we look at the clock, we tacitly make use of the 'sun's position', in accordance with which the measurement of time gets regulated in the official astronomical manner. When we make use of the clock-equipment, which is proximally and inconspicuously ready-to-hand, the *environing Nature* is ready-to-hand along with it. (Heidegger 1962: 71)

This short excerpt from *Being and Time* colourfully connects the agency of architecture with the city and fundamental qualities of nature. It is a useful framing through which to explore the problem of the buried references of profound meaning that the contemporary city has traded for economy and utility; and offers the tools to consider the city holistically – as a situated account, within a wider metaphysical place and within common ground for ethical commitment.

### **FRAMEWORK STATEMENTS ABOUT THE CITY**

On the basis of these topics, we can name a series of statements and capacities that link City, Culture, Nature, Civic Commitment and Technology.

1. The city gives a "definite direction" to nature that can be used to think about a fundamental ethical interpretation of urban order.
2. The city is a locus for civic commitment and represents judgments of the natural conditions, indebted to the reconciliation of these commitments. By interpreting the city through architecture we can understand what we as a culture are committed to.
3. The city is a receptacle for institutions that help us manage a common ground of difference and disagreement by employing technology and knowledge as means for civic commitment.
4. Architecture "endows" these institutions with operability, in effect facilitating the city's agency as a common ground for disagreement.

It is within this stratum that the city starts to become meaningful, especially as a locus for history and references to topics that are common-to-all; those that only this rich condition can help us to reconcile. A city is an institution of institutions; and the most substantial embodiments of the common conditions are the urban topography and its architectural interpretation. Of course, no city is isolated from global forces; but a city is the largest level of institution for which we can imagine concrete individual commitment and common purpose.

### **STATEMENT OF MAIN TOPIC**

The thesis seeks an understanding of the civic within an extreme condition of late capitalism. The question of an alternative civic order is framed as a cultural issue, dependent upon reciprocities between technological innovations and industrial production. Within this, the city's capacity and the scope of its locus for commitment is examined, to discover what types of commitments are possible and what types of commitments are most widely practiced.

## **2.3. Research Topic and Hypothesis**

### **SHIPAI AS A RESEARCH TOPIC**

My research of Pearl River Delta in general and Shipai in particular started in 2007 during design masters degree at the Architectural Association School of Architecture in London. The one-year Landscape Urbanism design studio had the ambitious topic of studying the emerging megacities of

China. I was always interested in urbanism and larger scale and studying a completely new type of city emerging in the East seemed like an appealing and worthwhile effort. China's economic boom, combined with migration from the rural areas, is fuelling a high-speed urbanism that is producing cities in the shortest imaginable time and completely changing the face and the character of the country's historical villages and towns. The studio was based on Doje Cering's (civil affair minister of China) formulation of a plan to build 400 new cities by the year 2020, to accommodate the migration from countryside into urban conglomerations. This urban flight risks China's historical identity being swamped by a generic pattern of indiscriminate urban sprawl. Or does it?

Looking at orthophotos of Chinese new emerging urban landscapes I was intrigued by "urban villages", which are an endemic Chinese Urban typology. These are traditional villages swallowed by the new speculative developments; hi-rise housing, central business districts and industries. This endemic condition arose my interest as I was always trying to understand the connection between tradition and modernity. As my personal interest lay within the research of impact of this wild urbanization on the traditional structure of life, I was looking for a condition where the traditional agricultural areas are not completely overwhelmed by the new industrial areas. Moreover, I was looking for a condition where these urban villages could be traced back to their initial historical state. There were many interesting areas, mainly on the outskirts of Dongguan and Guangzhou prefectures. Focusing on Shipai particularly was due to a good differentiation between the big agricultural area still containing only historical villages and the intense industrial build-up that has already swallowed some of the villages. The area represented clearly defined conditions and therefore the possibility to study different stages of rural urbanization. The more built-up areas like Dongguan proper, Shenzhen or other cities lack this critical link to the traditional and agricultural landscape which I felt was an important condition to study. With that said, Shipai is only one of the possible areas where such a condition still existed in 2007; any similar location within the PRD would suit the criteria. Only by my second visit did I discover that plans for the Eco-Industrial Park within the agricultural land were underway, which offered an additional unique opportunity to study most recent transformations of the rural areas – spatially, culturally, economically and politically.

When I went deeper into the structural analysis of the area, the intriguing spatial relations between programs, architectural types, agriculture and industry were leading me to believe that there is a much more fine-grained negotiation and intricate relationship within these new emerging cities. It became apparent that a one year program, focusing more on design rather than analysis and urban understanding, would not be a proper setting to carry the research further. That is why I decided to continue with the topic of rural urbanization in China as a PhD research thesis and basing it on Shipai. With established local connections, colleagues in Hong Kong universities and the interesting initial

work into urban structure, I had good starting points to delve deeper into the understanding of conflicts between tradition and modernity.

### ***HYPOTHESIS***

The hypothesis is that viewing the ancient tradition of institutionalizing conflict as the basis for a democratic city, offers an important insight as to how to understand the communication between natural conditions, urban topography, civic life and technological institutions. If we are to interpret the city as "giving some definite direction to nature", it requires starting with the concrete conditions of technological production in a topography predominantly given over to that production, namely Shipai. The popular understanding of rural industrialized areas like Shipai is derived from, for example, media reports of the treatment of workers by companies like Foxconn (Gabbatt 2012). This view shows the grim everyday life and working conditions of migrant workers. This description is somewhat confirmed by my visits to Shipai, but does not provide anything significant in terms of promise for a better life. Nor does it reveal anything about the actual topographies of these places, the aspirations of the workers, local villagers, party officials, village committees etc.

This research questions this sad portrait of industrial rural-urban areas in China and looks deeper into their organization and topography. Development pressures that have shaped Shipai for the last 30 years, in combination with its cultural and historical legacy, has produced an interesting urban topography that, despite its obvious deficiencies, reveals a unique propensity to accommodate change. In more concrete terms, a dense interlocking of different programs and societies creates clusters of industrial and agricultural production, threaded along transport infrastructure through remnants of traditional towns and communal life. The apparent conflict between the techno-capitalist and traditional orders is reconciled through their intense co-existence and emergence of a "composite order". The composite order mediates between current aspirations of global capital (a neo-liberal condition) crystalized in the institutional order of the regional corridor and traditional references to nature, rooted in local communities of traditional topographies. This can be seen as an ethical reinterpretation of nature, within a contemporary culture of technology and production.

The fragmented topography is a rich environment with mixed horizons of engagement, referring both to global capital and tradition at the same time. This urban ecology possesses a kind of "spatial intelligence" and topographical richness that can accommodate economic, programmatic and social change more effectively than those of 20<sup>th</sup> century Detroit, for example.

This brings us to the overarching hypothesis, that research of such a richly layered and contested area in terms of its traditional and contemporary claims can offer a way to address the current predicament of technology and culture.

The task and dilemma we are facing is how to reconcile the inventions and achievements of modern technology, which have already established their autonomy, with the conditions of human life, our inherited culture, and the natural world. (Vesely 2004: 7)

In Shipai the negotiation between the remnants of the grassroots and the techno-capitalist orders offers clues about how to address an overarching problem of modern society, where freedom for civic participation has been substituted by freedom from any kind of commitment, other than physical well-being and consumerism. The mixed order suggests an alternative reading to that of the contemporary urban condition, where architecture is largely understood as a vehicle for utility, land-capitalisation and physical well-being, simultaneously suppressing civic meaning and the capacity for engagement. The split between modernity and tradition is a consequence of changes due to science, technological innovation and industrialization.

In order to understand the topographies of Shipai they are compared to historical precedents like Detroit, Silicon Valley and Third Italy – three fundamentally different developments of industrialization in the West. The comparison is important, since the Chinese example differs from that of the West so can offer a unique perspective. Traditional cultures in both the West and China started as "mature natural states" yet China retains significant control of institutions, granting privileges selectively. This is in contrast to the West's quasi "open access" condition, where neo-liberal ideas have forced the state to become a mere facilitator for the free economy and where political power is deeply dependent upon economic capital. In the meantime, the conditions of the special economic regions in China – a quasi-capitalist condition – have seen slightly greater autonomy given to varied constituencies, such as villages, without sacrificing the overall state – and, de facto, party – control.

This by no means is suggesting that an authoritarian state is the solution to the centuries-old split between technology and nature. However, the curious condition in Shipai is instructive and sufficiently different from Western examples, to allow speculation about a civic and topographical order that could contribute to "innovation" in, and begin to resolve, some of the tension between technological claims and those of the ethical (natural) conditions of human life.

### 3. Research Questions and Outlined Outcomes

Between the topics stated in chapter 2.2 and the hypothesis in chapter 2.3, the two main research questions of this dissertation are as follows. Firstly, what are the limits and capacities of technology (rendered as industry) to support an ethical civic order? Secondly, what is the capacity of an industrial civic order to accommodate change and transformation of a territory sustainably for different participants?

These two questions give us the framework to investigate more concretely the themes described in chapter 2.1. The main goal of this thesis is to research three general topics. The first topic is to understand the nature of the traditional and the techno-capitalist orders, their connection to nature and their potential for creative transformation in history. In other words, we are interested in how these two orders differ and what they have in common in order to outline conditions for mutual co-existence. In reality, these two orders are never isolated, but always somehow in an agonic relationship. This leads us to the second topic, which is understanding and defining the composite order that mediates between these two conditions. The composite order is the actual condition in Shipai and can be read as a contribution to the understanding of the nature of civic order in the extreme conditions of late capitalism in special economic areas of coastal China. One of the main unresolved issues of late capitalism is the question of political power and civic commitment. Therefore, the third general topic deals with the freedom for political commitment and political power and how that capacity is structured. In other words, the third research topic is looking into ways to rethink the civic engagement and freedom for meaningful commitment within the contemporary city, through experiences coming out of existing practices in Shipai.

To these general ends, studies that are more specific are undertaken. Firstly, the assessment of the significance of the urban condition and topography in Shipai is done through comparison with similar conditions in the West; Detroit, Silicon Valley and Third Italy. These three examples are chosen because they represent three profoundly different ways how industrialization shaped the meaning of the city and because all three already produced moderately settled topographies which give us a great starting point to speculate on possible futures of Shipai. Speculating on these futures is closely connected to the capacity of architecture and what it enables. Therefore, we secondly undertake an assessment of the significance of the urban condition in Shipai in reference to the question of the contemporary role of architecture within the discourse on the city. We are mainly interested in understanding what role architecture plays in the agonic dichotomy between civic commitment and well-being. In other words, architecture is lately much too often understood as merely a practice of design, so we are investigating its political and civic capacity. This lastly brings us to the third study.

One of the more intriguing theoretical underpinning that claims this political capacity is Landscape Urbanism. It claims that design itself should and does possess this intrinsic quality. The research of these claims takes us through the investigation of the meaning of fashionable words and concepts of ecology and sustainability – two of the most abused words in the contemporary discourse on the city. This research therefore finishes by defining a more concrete meaning of these two emptied and contested words.

## 4. Methodology

Since each part of this dissertation has a different methodological approach, there is more detailed discussion in the introduction of each individual chapter. This chapter explains the general methodological framework of the dissertation.

### **BIBLIOGRAPHY**

This dissertation is using actual examples and visits to Shipai as the basis of phenomena to research. Apart from the chapter 2.1, the dissertation is not giving a classical bibliographical overview prior to investigation. This also proved to be difficult due to two reasons. Firstly, the theme is so wide that the in-depth bibliographical overview would need to cover everything from the traditional histories of China, the study of Chinese culture (such as the meaning of geomancy, Taoism, Confucianism, etc) all the way to the philosophical relevance and contemporary theories of urbanism. Instead, the bibliography is evoked and referenced in parallel as the dissertation argument progresses and as different examples are brought into focus. Secondly, since this thesis is a comparative cross-cultural study of contemporary condition, it is not necessary to document the full history of China's transformations. The focus is rather on the abrupt leap from traditional to contemporary culture in the context of a special economic region. For this history, I have relied on particular and general texts from the scholarly literature and the available media, corroborated by interviews with constituents, when available. Similarly, for the comparable history of Western approaches to common issues, I have relied on distinguished published authors and research.

In terms of general framework on the meaning of the global and contemporary city, accomplished contemporary authors such as Saskia Sassen and Manuel Castells were adduced. When it comes to the questions of Landscape Urbanism, works of current accomplished scholars from the Harvard School of Design, Professor Charles Waldheim and Dean Mohsen Mostafavi were used in connection to texts of practitioners such as Alex Wall and James Corner. In terms of philosophical understanding of nature and technology and its impact on culture, influential works of philosopher Marting Heidegger, accomplished environmental historian William Cronon and philosopher and sociologist of science Bruno Latour were adduced. To understand political and social history and ramifications, the work of Hannah Arendt, one of the foremost authorities on political theory is taken.

In terms of topics concerning China, I am referring to a wide array of peer-reviewed articles from distinguished international region-specific journals such as *Taylor and Francis's Eurasian Geography and Economics* (IF 1.08). In terms of scholars and researchers, the most helpful was a thorough

research and understanding of Pearl River Delta by Professor Georg C.S. Lin. Professor Lin is a human geographer, distinguished researcher and author of various books on topics ranging from Urban and regional development in China, land property rights in China to social geography of China, public policy and regional development or economic geography in China. He is the author of numerous books like *Developing China: Land, Politics, and Social Conditions* (2009) that is crucial for understanding the land right politics and therefore critical for the understanding of local topographies in Shipai. Professor Lin was and still is a board member or a guest editor of distinguished peer reviewed journals such as *Urban Geography*, *Environment and Planning A* or *Economic Geography*.

In terms of Chinese history, particularly how architecture and agricultural traditional life are connected, I refer to Ronald G. Knapp, who has been carrying out research on the cultural and historical geography of China's countryside since 1965. He is the author, editor, or contributor of more than 20 books, including *China's Traditional Rural Architecture: A Cultural Geography of the Common House* (1986).

In addition, I also refer to more recent researchers of the contemporary condition, such as my colleague, Assistant Professor Joshua Bulchover from Hong Kong University. Through his on-site research approach, called Rural-Urban Framework, he has a long-standing engagement with the rural urbanization in Pearl River Delta.

### **SITUATED ARCHITECTURAL RESEARCH**

As stated, this is research conducted through architectural and, mostly, urban phenomena, which, interpreted through phenomenological hermeneutics (see below), offer the conditions for praxis. Accordingly the interpretation of topographic conditions in Shipai is carried out through resources of historical maps (from the British War Office), historical paintings (the Qingming scroll), satellite imagery of the area (Google, Yahoo and Baidu online resources) supplemented with on-site visits and interviews. All this provides the basis for reconstruction drawings and mappings of the area. Due to the "limited-access" character of China, it was impossible to acquire any official vector drawings of the study area, and the drawings used for the argument were largely redrawn by the author for the purpose of this dissertation from the orthophoto online resources. In a similar spirit of "limited access", all the local and regional official institutions such as village committees and planning offices more or less politely declined interviews or meetings, even from official contact through my colleagues from the Hong Kong China University and the Hong Kong University who were acting as intermediaries and interpreters. On three visits conducted in 2008, 2012 and 2013 we were able to talk to the Eco-Industrial Park managers, the local population of villagers and migrant workers. The

accounts of local governments and official policies are therefore largely done in traditional way, through bibliographical review of peer-reviewed literature, mainly focusing on case studies and topics ranging from rural industrialization, local self-governance in China, the practice of land rights, etc.

An important part of the research was teaching, and the development of speculative scenarios based on initial research for the PhD. In 2012 I led a design studio of BA students at the Technical University Berlin working on the development of projects as a critique of the Shipai Eco-industrial Park urban development (please see chapter 5.2.1 for a description). The developers of this park retail a dubious image of ecology and sustainable development; and our response offered an alternative way to use industry and agriculture creatively so that it could connect the needs of the Eco-Industrial Park developers with that of village communities. Our research began with detailed analysis and interpretation of the existing conditions, based on data I had assembled in the field or in archives. Some of the 34 topographic studies of local typical situations and 30 axonometric studies of different building types make a contribution to Chapters 5 and 6. Using this material, we developed scenarios using industry and agriculture as agencies for a new civic order; and the insights help to refine the speculation of chapter 8.2.

The PhD dissertation is built upon initial work done as an MA design thesis in the same location by the author at the Architectural Association Landscape Urbanism program in the academic year 2007-2008. Whereas that project was mainly a design-driven proposal and its final result might be questionable by the standards of this dissertation, its initial analysis work of urban structures was a useful departure and is used piecemeal in chapters 5 and 6.

### ***PHENOMENOLOGICAL HERMENEUTICS***

As adduced, phenomenological hermeneutics will be used as the main philosophical approach through which to understand the case studies. Because this discipline asks only to understand the contexts in which phenomena are embedded – the conditions for possibilities – it is a fruitful basis for understanding the role of architecture and urban topography as fundamental constituents of urban culture and civic order. In this approach, the concrete world is described and individual examples are examined that seem relevant for the research question, not unlike the anthropological research method "thick description" defined by Geertz (1973).

In similar manner, the phenomenological approach does not raise all of urban life to the level of concepts, but rather examines it in terms of concrete situations and the conditions by which they are sustained. Higher order, more articulate phenomena (language, geometry, concepts) depend upon the embodying or concrete conditions (like location, history, culture) whose structure must therefore be understood as stratified, ultimately depending upon architecture's capacity to mediate the fundamental natural conditions; and it is important to be able to articulate these conditions rather than flatten them to concepts. Carl (after Merleau-Ponty and Vesely) defines them as *"stratified levels of involvement"* that can be explained as a *"vertical structure, from the most primordial claim of the natural conditions to the most general (concepts) or most universal (symbols) levels of understanding"* (Carl: 2014). Only by acknowledging this deep realm that moves between nature, history and culture can we truthfully describe and understand a topography.

By interpreting the urban conditions through phenomenological hermeneutics, it is examined what an architectural understanding can contribute to a debate which, to this point, has been dominated by economic, political or sociological scholarship outlined in chapter 2.1.

Understanding architecture through phenomenological hermeneutics means building the argument up from the phenomena (through case studies) in order to avoid generalizations and simplifications. Perhaps the most visible example of conceptual flattening in architecture is the use of the term "space". Everything needed to understand what this word describes requires additional descriptions like location, size, materials, light conditions, sounds, programme, usage, décor, custom and so forth. Therefore, instead of using abstract place-holders like "space", to make the concrete problems and complexity of the city disappear, the city is described through "stratified levels of involvement" in order to preserve its significance for comparison, analysis/interpretation and later speculation. Carl calls this *"ontological depth"* that represents a deeper institutional order based in historical and experiential continuity (Carl 2006: 32). He later gives an example where *"'depth' connotes the capacity of a block or high street to structure the fruitful co-existence of formal and informal life (a generosity greater than the usual meaning of "mixed use")."* (Carl 2012)

In a similar manner, "depth" of the city is defined by Vesely as the *"deep spatial structure"* (2004: 52) that is made comprehensible through individual's continuity of experience, something that Heidegger (1962) calls *"Dasein"* (there-being, being situated, being in the world). For Heidegger one's freedom is always conditioned by what he terms "world", which is always-already-given. Heidegger understands "world" to have an ultimately anonymous dimension, common-to-all, embodied in a culture. A suitable comparison is a language – one situates oneself in a language, one does not either invent a new one or treat it as a conceptual system which can be "translated" into living discourse. In his *Phenomenology of Perception* Merleau-Ponty's understanding of "space" is built upon the

Heideggerian "world". He emphasises that the "world" predetermines the experience within "space" by saying that: *"what protects a sane man against delirium or hallucination, is not his critical powers, but the structure of his space"* (2002 [1945]: 339). Therefore, it is not a conceptual framework, but one's spatiality (and continuity of experience of that spatiality) that protects from delusion.

Phenomenological hermeneutics literally translates "the interpretation of phenomena" (as opposed to "facts" which are the objective of scientific methodologies – phenomena are neither value-free nor autonomous, but culturally situated) and is best demonstrated as our interpretation progresses, rather than as a summary here. Therefore, for the purpose of this thesis it is sufficient to say that the only way to understand architecture profoundly is by describing it as a situated account within culture. This is possible by describing typicalities (case studies) through "stratified levels of involvement" by taking account of the range of phenomena from the most primordial (natural) physical conditions like shape of the building to very articulated discourses like those from specialist disciplines such as economics, engineering, etc. A good example is Vesely's description of a French café.

### **STRUCTURE OF CHAPTERS**

In each chapter of the study, we take a concrete example (such as the Qingming Scroll, the Virtual Sandbox, mass production, innovation, etc.) to work through the questions about the relationship of technology to the city, urban order and nature. These are described as an array that ranges from embodiment to articulation – from the physical conditions and architecture to conceptual ideas. The description of these topographies is classified according to four main themes.

Theme one, Role of Architecture is engaged with the question what type of topography supports what kind of architecture and what kind of culture is created on that basis. Theme two, Role of Industry, considers the role of technology, rendered as industry within the urban orders described; what it contributes to the city (apart from production of things), and how the production of things affects the city and its topography. Theme three, Limits of Commitment, investigates what are the limits of civic

commitment within the described topography. What are individual constituencies and how much civic commitment to the politics of that topography can different constituencies exercise. And lastly, theme four, Role of Institutions, is considering which institutions exist in these topographies, what type of commitment they enable, and to which constituencies.

Each chapter finishes with a conclusion structured around these themes.

## *PART B. Politics of Nature in China*

This part of the thesis deals with two main topics. First, it introduces the research area of Dongguan prefecture, describing the economic and political reasons for its unprecedented industrialization. Second, it defines traditional and techno-capitalistic attitudes towards nature through a description of the topography of Shipai, a rural-industrial township in Dongguan.

### **5. Rural Urbanization in Dongguan**

The primary goal of this research is to understand the capacity of industry to produce an alternative civic order that rests upon an ethical interpretation of nature. In this context, this chapter seeks to outline the underlying reasons for the rich fragmented condition that we find all around peri-urban areas in China – areas where industrialization has replaced the traditional rural environment in just a few decades. We are taking an intense rural-industrial condition in Dongguan prefecture of Guangdong province (Figure 5-1 and Figure 5-2) as a case study to uncover the positive and negative consequences and possibilities of industry as the basis for a civic order which engenders commitment in the contemporary age of global capitalism.

The first part of the chapter deals with historical and policy reasons for recent rural urbanization of PRD and Dongguan and sets it in the context of China. This part of the chapter is mainly based on a literature review of relevant academic research in form of books and peer reviewed articles. Due to obvious limitations of this research, we will only do a brief and most recent account of political and economic changes, focusing on socialist land reforms starting with Great Leap Forward (1985 - 1991) under Mao Zedong with occasional references to more distant past. Land reforms are the most prolific way into the understanding of attitudes to nature. They open questions about tradition and techno-capitalism as they deal with political structures and the sharing of power (between central and grassroots governments). They reveal the rich civic order of peri-urban areas that is endemic to rural China.

The second part of the chapter is an empirical study of regional urban structure on the border between Chashan and Shipai townships in Dongguan. The study is an analysis of the built fabric (organization of buildings, infrastructure, grain of the fabric) as well as of rural and geographic features. The area is

analysed through orthophotos (aerial views), historic maps and architectural drawings, in conjunction with theoretical frameworks on urban structure, available from the literature. This is accompanied by short descriptions of topographies and images from site visits in 2008, 2012 and 2013. The area is described at different scales, from regional to architectural, identifying key elements that define these scales. This offers a detailed understanding of how peri-urban areas grew and how the rich political structure is reflected in the built environment.

Both parts together give a good starting point for a more in-depth description of the topographies in Shipai and help to define the traditional and techno-capitalistic orders which are further exposed in chapter 6.

## 5.1. Policies and History of Dongguan

*Figure 5-1. First special economic zones in China that facilitated opening of China to the world economy in 1978. 1. Pudong, Shanghai 2. Xiamen, Fujian 3. Shantou, Guangdong 4. Shenzhen, Guangdong 5. Zhuhai, Guangdong 6. Hainan.*  
© Alan Mark, Wikipedia, reworked by Tomaz Pipan.

The process of Chinese rural industrialization started in 1978 with the opening of the first economic zones (SEZ) (Figure 5-1). In these special zones local governments, by the decree of Central Committee of People's Republic of China (PRC), were allowed to offer taxation and investment incentives to foreign capital and investors. This unprecedented political decision and the resulting economic conditions set in motion the rapid topographic transformation of rural territories all across coastal China. The Pearl River Delta (PRD) in general and Dongguan in particular (Figure 5-2) are the most iconic examples of the speed and the scale of that transformation.

To think about the role of industry in a contemporary city we have to explain the fundamental difference between traditional and techno-capitalistic attitudes towards nature. These are on one side situated in history and politics and on the other visible in physical form.

### 5.1.1. Introduction of Dongguan

Dongguan is a prefecture level city region in Pearl River Delta (PRD) – one of the most famous territories in the history of Chinese rural industrialization. PRD occupies the south central area of Guangdong province, with an abundant coastline, important for international trade (Figure 5-2). The mouth of the PRD estuary hosts Hong Kong, traditionally one of the most important hubs of cultural and economic exchange between the East and the West. All these geographic and economic conditions were reasons that three out of six initial SEZs were located in the Guangdong province including two in the PRD.

*Figure 5-2. Location of the Pearl River Delta within the Guangdong province © NordNordWest, Wikipedia, reworked by Tomaz Pipan.*

On the 11th Plenary Session of Central Committee of PRC in 1978, the Chinese government decided to reform the socialistically planned economy by opening up specific carefully selected areas to overseas markets. One of the instruments was a Special Economic Zone (SEZ) that facilitated economic exchange between China and global markets featuring favourable laws to attract foreign investors and producers. In 1980, Shenzhen in PRD, then merely a village, was designated as one of the first SEZs. The economic success quickly grew and so did the area. By 1988 the whole region of

the Pearl River Delta was designated as a PRD Special Zone. (ad lib. baike.baidu.com, wikipedia.com accessed 03. Feb. 2014). To avoid confusion between the initial SEZs starting in 1978 (like the infamous Shenzhen) and later expanded economic areas, we shall title the latter Special Economic Region (SER).

Within the PRD, Dongguan is one of the most famous cases of rural urbanization (Lin 2006: 32) as it experienced an incredible growth from when it was granted a special economic status in 1985 (Figure 5-4, Figure 5-5). Dongguan city proper was very successful in attracting foreign direct investment and due to this grew economically and in population (Figure 5-3) (Lai 2004: 55). With the economic success its prestige and standing amongst neighbouring cities also increased. Dongguan was first upgraded to a county level city in 1985 and finally to a prefecture level city in 1988. This also brought about a higher degree of administrative freedom than local level governments at different levels usually have. (Lin 2009, Friedmann 2005, baike.baidu.com accessed 03. Feb. 2014)

*Figure 5-5. Dongguan area in 2010 © Google, January 2013, conservative extrapolation by Tomaz Pipan from initial Google Map image of the Dongguan City Proper.*

Dongguan today is comprised of the city proper divided into 4 districts and 28 townships (Figure 5-6). Each of the townships has its own local administration and is further subdivided into administrative villages; 386 in Dongguan in total. These administrative villages are governed locally by grassroots Village Committees usually comprising a party official and elected village representatives. "Organic Law of Village Committees" is a legislative instrument that enables reconciliation of top down central and bottom up – grassroots government<sup>1</sup>. Shipai Township, for example, is divided into 18 administrative villages of which each administrative village consists of one or more natural villages and / or hamlets. (Guldin 1997, Lin 2006, wikipedia.com, baike.baidu.com accessed 03. Feb. 2014)

*Figure 5-6. Location of Shipai and Chashan townships within the Dongguan prefecture. © Tomaz Pipan, reworked from various online material.*

Dongguan's economic success has to be attributed to the fact that it was appealing for both the workers and the investors at the same time (Lin 2006: 35). Workers were drawn there because of its peripheral location in relation to the two provincial SEZ centres of Shenzhen and Zhuhai. This meant cheaper rents, relaxed policies regarding *hukou*<sup>2</sup> migrations and less control by central government.

<sup>1</sup> The "Organic Law of Village Committees" is one of the most important instruments and will be described and referred to throughout chapter 5 and 6. The most in-depth description and its historical precedents are explained in chapter 6.3.

<sup>2</sup> Please refer to the following chapter 5.1.2 for an explanation of *hukou* household registration system and its consequences.

Investors found it preferential for both economic and political reasons. In spite of its peripheral nature, Dongguan has good transport connections to international ports and more importantly, economic ties with foreign capital in Hong Kong, Taiwan and overseas through the wealth of expatriates. The local government is willing to cut through red tape and accommodate investors and are accommodating of the "grey" economy compared to the more strictly managed SEZs of Zhuhai and Shenzhen. Dongguan also features more competitive land prices and an abundant inflow of workers from the rural hinterland.

All of these reasons contributed to Dongguan's unprecedented economic growth between 1958 and 2008 when it was hit hard by the global financial crisis. These rich political and economic changes can largely be attributed to significant shifts in land policy in rural areas.

### 5.1.2. Historical and Policy Reasons for Rural Industrialization

Unlike in Europe, China's history was deeply and intrinsically agrarian and traditional<sup>3</sup> (Knapp 1992, Skinner 1977, Golany 2001). The political organization of "bureaucratic feudalism" as named by Needham (*Science and Civilization in China: Volume 7, 2004*), continued to exist almost unchanged and unchallenged for 2000 years from the Qin dynasty in 221 BCE until the Qing dynasty in 1911. Unlike Europe, where there always existed competition and the arms race that fuelled technological and industrial progress (De Landa 2000), China's cultural survival was anchored in centralistic rule with strong rural and traditional values that were obstructing Chinese development and by the beginning of the 20th century, China was still an agrarian feudalistic empire. The industrialization and technological advances that helped Europe and the West to spread its influence never happened in China and it remained an underdeveloped rural introverted entity. Modernization and industrialization was a survival necessity in order to catch up with the rest of the civilized world and this mandated a break with 5000 years of tradition. During the ideological civil war (1927 – 1949/1950) between the Kuomintang and the Communist Party, the latter was victorious. People were eager for progress and change, which played favourably for the ideas of communism and the Communist Party with a bold vision of the future.

<sup>3</sup> Even more interesting from the Western standpoint is the fact that there were no eras when new movements would start. No city republics like Venice, Pisa or Genoa. No philosophical movements like the Renaissance or the Enlightenment. China continued to exist fundamentally unchanged mainly due to the strong hierarchical organization through which the ruling dynasties retained the cohesion of this vast empire. Even Buddhist religion was successfully absorbed into the existing beliefs and practices instead of, like Christianity in Europe, starting a "revolution of religion".

## MAO ZEDONG AND GREAT LEAP FORWARD

China's communist regime had to come up with regulations of the market and goods that would not resemble capitalism. Instead of talking about market economy, the operating concept was "material balances" where basic needs were collectively provided and economic planning was done on basis of actual material supplies (grain, wood, iron, coal, etc), thus inhibiting the role of currency as a mechanism of the capitalist market. This had severe repercussions on Chinese organization; one of them being the need for a self-sufficient market and autarkist economic production. China had to survive without foreign investments, hence needing a high internal rate of savings (ad. lib. Friedmann 2005: 10-11). The core of savings came from hard working rural areas that fuelled the industrialization of cities. *"Throughout the PRC's 50 years, agriculture and peasants have paid for the regime's ambitious programme of industrialization, as the price scissors consistently favoured the urban over the rural producers."* (Oi 1999: 54) This rural-urban divide established by the Communist Party defined many facets of people's lives from social security to education and economic standing.

Urbanites were given lifetime work and benefits and peasants were given a lifetime claim to the land and the food it produced. This division called "the iron and the clay bowl" also meant that, since the whole economy was based on grain production, the peasants had to firstly fulfil production quotas to feed the urbanites and fuel the industrialization effort, and secondly grow enough food to also provide for their own subsistence (Foster & McChesney, 2012: 11). This agriculturally-based industrial economy relied on the peasant to "feed" the modernization effort. In order to implement this agriculturally based utopia, Mao Zedong started a comprehensive agrarian reform in 1954, and ruptured centuries of rural tradition. Reforms started by Mao Zedong increased the inequalities between rural and urban populations and their detrimental effects can still be observed to this day.

Comprehensive agrarian reform started with the act of collectivization of all the agricultural land between 1945 and 1956. This abolished household ownership and radically changed the ownership structure from that of local landlords (who were banished or killed) to that of state and local party official. This eliminated the free market economy entirely as the peasants had to deliver pre-described quotas of grain. (Benedict and Selden 1998: 40-41)

Due to collectivization, small towns *"declined dramatically in number, population, and economic function. [Collectivization] rendered the towns dormant for more than two decades until the 1978 reforms."* (Shen and Ma 2005: 762) The final consequence of the reform was that agricultural land was managed centrally by party officials from offices. Local civic life previously connected to land, nature and its cycles, was abolished. Instead, "People's Communes" were introduced in 1958 (Figure 5-7). A commune was a collective unit that organized all facets of daily life, replacing the freedom for

civic commitment with meticulously scheduled social and political events. This ended the market life of civic participation in the local towns and started a new communal reality, where everything was shared within the larger communal group and where freedom for civic commitment was harshly delegated by the Communist Party.

*Figure 5-7. Propaganda poster: "The people's communes are good". © Rui Guangting, Shanghai educational publishing house, 1958.*

### **HUKOU HOUSEHOLD SYSTEM**

This level of collectivization and planned communal life was taken to the extreme during the Great Leap Forward reform (1950 – 1960), that was supposed to "*usher in an era of universal prosperity*" (Benedict and Selden 1998: 41). The local commune officials became very important and powerful. In order to keep up with technocratic plans of the central government, they falsified the quotas of grain production. As a result, the majority of the grain that the peasants harvested was taken for the purpose of modernization of cities, leaving the peasants starving with a catastrophic rural famine costing 15 to 30 million lives.

This resulted in a flood of peasants to the cities. Since the government could not afford the new migration trends (someone was needed to produce food for the cities) the central government

responded with the establishment of "*hukou*" (household registration system) "*to curb migration outside the state plan*" (Chan and Buckingham 2008: 588). Household registration was common practice for a centrally managed economy but in 1958 the *hukou* started being used as an official instrument to control movement of people between rural and urban areas.

The *hukou* system tied the farmers to their land and urbanites to the cities, geared toward industrial production, enabling "efficient" management of industrial production in the cities and agricultural production in the rural areas. It prohibited farmers from migrating to the cities in search of better life.

The *hukou* also delegated and defined person's rights and obligations. Most commonly, their rights could be exercised within his or her village or city. In the Maoist times urban *hukou* meant urbanites got a significant share of rights and welfare provisions such as state grain, employment, schooling, medical care, and pensions. On the other hand, peasants had to largely provide for themselves due to their connection to the land. (Chan and Buckingham 2008: 588) The injustice of the *hukou* system has been widely criticised by academics in China and abroad.

Even so, the *hukou* system persists to this day, although with a significant amount of legislative change. The most important is the ownership of land attributed to village communities (see following sub-chapters). Particularly in the SER, these land ownership rights and the right to non-agricultural profit extraction (in the form of rents and industrial production) has radically changed the significance of rural *hukou* as "the agricultural *hukou* population has enjoyed living standards similar to those holding non-agricultural *hukou*".

More significantly, land ownership is an important political and economic resource, and consequently having a local rural *hukou* represents an important asset. It assures civic freedom for political and economic participation. This participation is connected to a dispersed legislative power at the bottom end onto individual villages and is the source of grassroots civic order. As such, it is the basis for the unprecedented variety of rural urbanization in China. The start of this local liberalization was the relaxation of Mao Zedong's austere centralistic management and the disbanding of the commune system.

#### **DENG XIAOPING AND RELAXATION OF POLICIES**

A new era and a second agrarian reform, starting in 1970s, came about with a change of political direction under Deng Xiaoping when strict centralistic control of agricultural production and collectivization practices were softened. The communist regime realized that small economical yields of food production on one hand, and inflexible state-owned industrial complexes in cities on the other,

could not sustain the material balances. To correct this, the regime adopted some of the practices emerging in rural areas that were also part of a deeper cultural tradition: the wider authority of local governments and a gradual liberalization of markets. This led to a subsequent opening towards the global market economy. Industrial production opened doors in response to persistent the pressures of capitalization of rural areas through industrialization. The *hukou* system was still enforced, although restrictions on mobility of peasants were being gradually relaxed and *"the movement of migrants to small towns and periurban regions outside major metropolitan centers has now become much easier than before"*. (Lin 2006: 34)

Another significant change was the dismantling of the commune system in 1982 and reinstatement of townships as the lowest level of central governance. In addition to township level control, a village administrative level of governance was put in place, recognized through the "Organic Law of Village Committees" in 1987. Here, political power is shared between a local party official and elected village representatives. The political reconstitution of the village signalled a return of the civic life known from before collectivization. This sharing of power is one of the most important characteristics of the Chinese countryside and it requires better understanding in order to correctly describe the subsequent urbanization. A more in-depth overview of this composite legislative order is explained in chapter 6.3.2.

During the post-1978 reform era, with the de-collectivization of agriculture, the dismantling of the commune system, the relaxation of central control of economic activities and rural to urban migration, small towns have become reenergized. The rapid growth of small towns and the revival of their economy during the 1980s were locally initiated, and their spontaneous growth took place without any input of financial and other resources from the central government. The emergence of this "urbanization from below" characterized by the growth of small towns was based on the development of local TVEs (Town Village Enterprise – see next sub-section). Existing literature suggests that the phenomenal growth of rural industry was the most powerful force driving rural economic development and the growth of small towns, particularly in coastal provinces. (Shen and Ma 2005: 762)

The de-collectivization of land, called "the Household Responsibility System" was carried out on the basis of family size where the land was re-redistributed depending on the number of family members. (Benedict and Selden 1998: 49-51) However, there is a stark difference in ownership from the pre-Mao era. The land is not owned by the households themselves or individuals, but rather by the township collectives. That is primarily why a local level government at village level was established. The households or the individuals receive a long-term lease and usage rights and prescribed quotas of agricultural production. Any extra farming produce could again be used and sold by locals. This

liberalization re-started the rural economy and local market towns regained their importance. In addition, the collective ownership combined with moderate self-governance of villages is the basis for the richness and variety of rural civic topographies in China.

#### **TVEs AND DIFFERENT PRACTICES OF RURAL URBANISATION**

In the management of collectively owned land, local party officials, together with elected village representatives, play vital role. This remnant of the traditional collective order, in combination with the move towards industrialization of the countryside was intended to improve peasant conditions and limit rural to urban migration. Permission by the central government for the rural population to engage in non-rural work gave rise to the most important and widespread Chinese business and economic organization, the "Township Village Enterprise" (TVE) that *"arose in the 1980s in response to the de-collectivization of agriculture"* (Walcott 2003: 92)

TVEs represent a continuation of the notion of augmenting rural agriculture with industrial production. Already at the time of the communes, the "commune and brigade enterprises" were allowed to produce much needed material and equipment for agriculture such as fertilizers, agricultural tools, steel and cement. TVEs were a logical continuation of these early rural industries and were an economic success bringing villages out of poverty.

It is important to note that TVEs were and still are a business construct that emerged all over rural China, from inland regions to coastal provinces, encompassing the entire rural landscape. Huang (2008: 77) notes that they are location rather than ownership concept. There is a big misconception that TVEs are solely owned communally (Walker and Buck citation above notwithstanding) yet in the 1990s there were 1.25 million collective TVEs and 22.15 million private TVEs (Huang 2008: 77). This is an important difference, especially because the private TVEs have a worker limit of 7 people. This hinders the possible impact of private TVEs and is the reason why the SERs in the coastal regions, and in more developed and wealthy provinces, feature mainly communally owned TVEs. They are allowed to employ thousands of workers, *"in the 1980s it would have been difficult to register a firm with thousands of workers explicitly as a private-sector firm"*. Western scholars tend to mix these two concepts of private and communal TVE due to the singular title and unprecedented

success of the giant TVEs in the SERs of coastal region – the factory sheds we associate with the TVE concept. (Huang 2008: 68 – 85)

For our purposes, because we are interested in the development of Dongguan, whenever we are referring to TVEs or "industry" as such, we should understand it as being initially communally owned. In parallel, ownership is not the equivalent of know-how and management skills. In many cases, the Village Committees "land" their rights and access to bank loans for a fee in order for individual entrepreneurs to start their own businesses. These politically biased partnerships are called "Red-hat TVEs" due to their "sponsorship" by the local village or township government (Huang 2008: 75). Thus, the communal TVEs operate in a grey zone between communal ownership and private interests that well accommodates personal favours and corruption.

This grey condition serves to propel the uncontrolled rural industrialization and is in large part responsible for the urbanization that is happening all over rural, coastal China. The collective TVE is a dubious economic model and in this respect very "Chinese". Even though being endemic to China it has as many local variants as there are townships and villages. For example, Dongguan has 31 administrative townships, and 386 administrative level villages, each with their own government. Within this, each government has complete autonomy in management and acquisition of investments as long as they follow the prefecture level master-plan, which mainly refers to general ideas about program and zoning.

Despite the widely divergent practices of TVEs, researchers have defined three models of development that represent the modes of industrialization of coastal China. These mainly refer to the collective TVEs. As summarized by Peng (2001: 1345), these are:

1. Southern Jangsu Model, with collective ownership, this is a true collective TVE model that is the most egalitarian. All the peasants benefit from the development through a form of shared interest (shares or quotas).
2. Wenzhou Model, which features predominantly "Red-hat" privately invested collective TVEs, where more entrepreneurial individuals in collaboration with local officials control local TVEs that are merely a façade for informal privatization.
3. Pearl River Delta Model, with predominantly foreign (Hong Kong and Taiwan) investments, these are orientated to exports. Local communities mainly lease out their land to foreign companies and a variety of property-right forms exist, largely depending on the benevolence and management skills of Village Committees.

The TVEs were initially an unprecedented success, at least in economic terms, and represented upward social mobility for the rural population. However, there is an increasing scholarly interest in

the potential longevity and economic sustainability of the TVE model, especially the 7-worker private TVEs – the majority of TVEs in less developed provinces. With industrial production becoming ever more competitive through claims by new global producers like India and Bangladesh as well as China's accession to WTO that needs to abide by higher production standards, the long-term viability of TVE industrial production in China is under question. Its survival is increasingly dependent on privatization and incorporation of know-how and innovation across the industrial stages – from production to management. (Shen and Ma 2005: 763) This is viable for larger factories with funds, managerial skills and good international connections but in this climate it is questionable if local private TVEs and badly managed communal TVEs without proper know-how and skills will be able to keep up with ever increasing demands of the clients on one side and of workforce rights on the other. Combined with the credit crisis in 2008, this internal limitation has decimated the TVE landscape. In addition, the unclear ownership and property rights of these "engines of rural economy" instigated a fair amount of grey economy activity, favouritism and corruption.

As mentioned, the TVE debate is still very current particularly because it is only recently that collective ownership been officially permitted to be phased out. The Red-hat TVEs are slowly being "put in order" but mainly at the expense of local villagers who used to have rights to the land and its management, but are being efficiently manipulated by local officials and investors to forfeit these rights for meagre rents and pay-outs<sup>4</sup>. This means that the debate will continue as the TVEs have not been completely transformed. However, for the purposes of this research, the outlined overview should suffice. It gives us a level of understanding needed to describe the industrialization model of Dongguan. The following sub-chapter contains a more detailed overview of the specific developments in Dongguan, as this best represents the Pearl River Delta (PRD) model where foreign direct investment (FDI) is used to power "processing and assembly" (P&A) type of industrialization.

### 5.1.3. The PRD Industrialization Model

There are two main reasons for the scale and pervasiveness of rural industrialization. First, in spite of extreme poverty, due to collective ownership, peasants all over China were not able to sell land. Second, because of the *hukou* system these same peasants did not have (and still do not have) rights and benefits outside their administrative village. Depending on local factors the TVE organization and funding has taken different routes. Factors like the Open Door Policy, closeness to foreign funds (Hong Kong, Taiwan, Macau), special dispensations by the central government and the SER policy propelled the PRD as the hotspot of foreign direct investments (FDI) that accounts for 37% of GDP of China (Zhao and Wong 2002: 267 citing Sun 1998).

.....  
<sup>4</sup> See chapter 6 for detailed case studies and interviews.

**FOREIGN DIRECT INVESTMENT and PROCESS AND ASSEMBLY**

One of the main reasons Shenzhen was selected as initial SEZ was the propinquity of Hong Kong and Taiwan. This meant that foreign firms cut the costs of production by relocating their manufacturing processes into the PRD (Wu 2007: 97). This is why the main type of industry in the PRD is processing and assembly based (P&A). It caters for foreign firms, from small investors to multinationals like Apple, Nike and Samsung. In this, what is called a "first wave development strategy" with low initial investment and fast (but low) economic return, Dongguan is a prime example.

This "first wave industrialization" is also called a *waixianxin* (outward oriented) development strategy. Poon (2002: 22) finds reasons for its success in low initial investment, minimal risk to local governments, vast labour absorbing power and fast start-up. These and other reasons propelled Dongguan as one of the main areas of P&A "*shanai yibu*" type of industrialization (Guldin 1997, Yeung 2001, Ho 1995, Wu 2007, Liao 2008). In this type of industrial organization local TVEs were heavily augmented by foreign direct investments, which despite the above short-term benefits brought with them quite a long roster of deficiencies for long-term development, discussed later in the text.

Even though the management of TVEs sounds like a socially orientated model on paper, it is not always the case, especially in the PRD, where strong global and international appetites have been present from the very beginning. The proximity of Hong Kong, their know-how, investment power and management skills have given local communities no opening to develop their own enterprises as they would have been completely uncompetitive (Unger and Chan 1999: 46). This means that local communities can only lease out their plots and live off meagre rents, all the capital gains go into the hands of foreign companies.

In addition to small gains, the "first wave strategy" Dongguan adopted makes it an assembly base of global consumerism with limited possibilities for bigger aspirations. Added-value industrial sectors such as design, research and development are not represented. This means that Dongguan is badly positioned for long-term industrial and economic development and sustained future growth. In order

that it not remain the world's P&A facilitator and instead move into the research and development (R&D) sector, Dongguan's development strategy will have to change radically. However, the local climate is not well suited for the R&D departments of international corporations. Lai (2004) gives a good example in his research into the Taiwanese IT industrial clusters of Dongguan. The conclusion is that *"the electronics clusters of Dongguan are mainly low-value added and labour-intensive"* (Lai 2004: 139) which is not an ideal condition to foster innovation and research environments. The "race to the bottom" and facilitation of P&A left Dongguan in bad shape, as all the capital is in foreign hands, and in order to sustain the local economy it perpetually needs more foreign direct investment, rather than fostering local entrepreneurship and innovation. Even though agglomerated and clustered industries are typical in Dongguan the P&A type of industry does not encourage the so called "knowledge spillovers" which are needed for long term competitiveness, and are usually attributed to R&D clusters. (Porter 2000: 21, Komninos 2008)

### **GUANXY CONNECTIONS AND ACCESS TO INSTITUTIONS**

In addition to the know-how and management strategy problems, another peculiarity of TVEs speaks against their long-term sustainability. That is their intrinsic support of the grey economy, favouritism and the corruption that is a consequence of the traditional role of personal connections and relationships – the *guanxi* system, which is an intrinsic Chinese component of the "limited access" order of North et al., as described in chapter 2.1. In imperial China, *guanxi* had to do with Confucian doctrine and was a noble ethic for the good of the whole community. However, the communist and lately capitalist doctrines have perverted the original practice into one that benefits individuals and elites exclusively. This type of *guanxi* is very prevalent in Dongguan's FDI TVEs and its power *"is greater than the law in some circumstances"* (Yeung 2001: 29). Here, ownership is *"multi-layered"* and *"mixture of local government and private capital [is] blurring the boundaries between state, private and collective"* (Oi 1999: 68). Local connections play an important role in making business deals, creating new enterprises or securing development land. Areas like Dongguan are in "mature natural state" condition, where law is pervasive however, rule of rites and elite favouritism is still strong and widely practised (North et al. 2009). Depending upon whether the developers use the "correct" company to facilitate parts of their investment procedure, the deal will happen or not (Yeung 2001: 19).

### **MIGRANT WORKERS AND THE FUTURE**

Apart from corruption there is another problem that has received much attention in academia attributed to rural urbanization and the TVEs. The speed of industrialization brings with it a massive influx of migrant workers – *"mingong"*, and this has been very visible in Dongguan (Figure 5-8).

These workers are largely young people from villages in inland provinces. In Dongguan over 70% of workers are rural-to-urban migrants that accounts for between 4.33 million (Dongguan Statistic Bureau 2003) and 6.44 million (CSCPCO 2000) people (Lin 2006: 31). This is the production base that fuels the economic development and industrialization of China – diligent, lower class workers and farmers are the production force of the new Chinese economy.

Population Rise  
[million]

*Figure 5-8. Changes in population ratios in Dongguan. © Drawn by Tomaz Pipan. Compiled by Lin 2006 from Dongguan Statistical Bureau, 1998: 234-239 and 2003: 59-62.*

The most controversial aspect of the migrants' lives is their residence and social status. Because of the *hukou* system, they are not seen as part of the local population and are therefore not part of the official government figures for a particular area. "Around 275 million rural migrants lived in urban areas in 2010 – one fifth of China's total population." (OECD 2013: 34) In addition, not having a local *hukou* means not having any rights or social benefits. They have no access to the social security and health care schemes that some of the villages and districts provide for their population. The same is true for education – people with non-local *hukou* need to go to school in their own provinces, as well as their children, or they need to pay for a private expensive school or kinder garden. The *hukou* is passed from generation to generation.

Migrant workers are at the bottom of the social ladder; the exploited class of China. However, the account is not so black and white. Underneath this measured account of urban sociology is a topography that is talking about the split between traditional world of a village and contemporary global world of techno-capitalistic cities. Saunders' account in *Arrival City* (2010) sees this suffering as a testament to the commitment of such people to better their lives or even to survive. For example, he shows how they think in terms of three generations – grandparents, parents, children – and how the parents take up employment and live in grim conditions in order to send money back home, where the children are cared for by the grandparents and will get a proper education, so that the family name

will prosper. To this should be added the strange world in which the *Factory Girls* (Chang 2010) find themselves: at first, they are homesick, then, when they come home at New Year, often with a television or other "upgrade" to the parents' welfare, they find themselves the breadwinner, thus relegating the father to a secondary position, effectively humiliating him. Chang gives a vivid description of "good" factory conditions in a You Yuen factory where "*work is capped at eleven hours a day and sixty hours a week with Sundays off, rare for an industry in which labouring through the night is not unheard of.*" (Chang 2010: 99)

Recently, there have been positive developments in regards to the migrant workers' status. Migrants have become much more aware of their position, their rights and are stepping up (Foster and McChesney 2012, Gabbatt 2012, Kaiman 2014.). The standstill of a "closed access state" (North et al. 2009) is being challenged by informal institutions through strikes and requests for more rights by the workers. Due to the rising affluence in China "*workers are getting harder to find, and pay is soaring*" (The Economist, January 25th 2014: 9). This is directly linked with the responses of global neo-liberal market, for example "*Adidas and Nike have begun moving their manufacturing operations to lower-cost countries including Vietnam.*" (Kaiman 2014) The big question now is if this upward mobility can accommodate Chinese rise to knowledge and service economy and to evade the "middle-income trap".

If China will not be able to switch to service economy on a big enough scale, the development might as well grind to a halt as "*nurturing innovation becomes increasingly important*" (OECD 2013: 4). However, this might prove to be more difficult than it is expected as "*many of the more advanced products that China manufactures are, in fact, not very Chinese at all. Gadgets like iPads may register as Chinese exports, but they are really just assembled in the country.*" (Schuman 2013)

The debate around migrant workers, their rights, rising affluence and the specifics of Chinese industrialization is far from over. Reasons for migrant position are manifold and very complex; ranging from the traditional traits of Chinese culture, to the specificities of the global open market and capitalist attitudes of investors. For the purposes of this research we are acknowledging the difficult position the migrant workers are in. However, due to the breadth and depth of this problem, we will focus more on describing the topographies and position of workers within them, rather than dealing with the socio-economic problems of migrants as such.

Let us now try to lay down the groundwork for an understanding of the Chashan-Shipai topography. If we were to judge on the basis of the presented material alone we could conclude that such a complex and colourful contemporary history gives precedence for some interesting research into topographical order(s) in the Chashan-Shipai area.

## 5.2. Regional Urban Structure of Chashan-Shipai

Having described recent history and policies we now move on to a description of the regional urban structure that, together with the above literature review, should give us a basic level of understanding for an explanation of the topographic orders discussed in chapter 6. This section takes an area between Chashan and Shipai townships as a case study. We will examine the hierarchy of built elements at different scales and the clustering and importance of infrastructure, in combination with historical evidence and theoretical models of urbanization. This is combined with knowledge of the area obtained by my 2008, 2012 and 2013 visits.

Each part of this chapter will deal with specific identified elements (predominantly different types of corridors) and identify the relevant horizons of engagement within these elements (like traditional, historical, economic, political, etc.). The hypothesis so far suggests that there is a latent potential for these areas to support a kind of urban order which could serve to support civic commitment to wider constituencies and is based partly in traditional and partly in techno-capitalistic registers.

### 5.2.1. Introduction to Chashan-Shipai

*Figure 5-9. Location of the research area in the context of the Pearl River Delta, Dongguan prefecture and local townships. © Initial imagery: Google, January 2007.*

Chashan and Shipai are both outlying townships located in the north-east of Dongguan prefecture, bordering Guangzhou administrative sub-provincial city to the North (Figure 5-9). Their position away from the main industrialization axis of Dongguan along G15 provincial and G94 prefecture highways (Figure 5-10) means that their opportunities for investment were somewhat decreased.

*Figure 5-10. Road infrastructure in Dongguan Proper in reference to the Chashan-Shipai area Two main north-south highways are very visible. The roads account for the built areas, the white for agriculture. It is evident that Chashan – Shipai area is away from major transport routes. © Google, February 2012.*

Chashan measures 45.1 km<sup>2</sup> and has resident population of 156,522 (not counting the floating population). It is divided into 16 administrative Village Committees. Similarly, Shipai measures 56 km<sup>2</sup>, has a population of 160,202 and is divided into 18 administrative-level Village Committees. Until 2006 this bordering region comprised a larger area of agricultural land (roughly 1500 ha) with adjacent villages (Figure 5-11), the west side belonging to Chashan and the east side to Shipai. The rice fields were designated as the Dongguan Eco-Industrial Park in 2007 and are as of 2010 in intense redevelopment. We will return to this later in the chapter.

**FRAGMENTATION OF THE AREA**

*Figure 5-11. Orthophoto of the researched area as it appeared in 2007. Rice paddies flanked by amalgamated urban build-up. © Google, January 2007.*

*Figure 5-12. 1. Rice paddies, 2. Fish Farms, 3. Allotments, 4. Historical Village and a Pond, 5. Shaking-hads Village, 6. High-end Villa Gated Estate, 7. Mid-range housing, 8. Low-range housing, 9. Small industrial compounds, 10. Large Industrial Compound. © Google, January 2008*

A more general characterization of the area would be that it consists of an interlocking mix of industrial buildings with village-like housing, newer "shaking-hands" villages<sup>5</sup>, a few high-end villa estates and agricultural land (Figure 5-11). The latter consists of rice paddies, fish farms and allotments.

*Figure 5-13. Land Use Map of Lijiafang Village in Shipai Township © Guangdong Provincial Institute of Urban and Rural Planning, accessed at baidu.com in February 2014.*

More detailed excerpts (Figure 5-12) show the variety of urban and agricultural typologies found within a 1.5 km<sup>2</sup> area. A land use map of the same area (Figure 5-13) shows the immense diversity in terms of grain and size of urban as well as agricultural structures which hints at the multi-layered order we are arguing possesses some kind of "intelligence". The land reforms and village level governance by Village Committees described in previous chapter support this thesis.

In comparison with Dongguan proper (Figure 5-14), the Chashan-Shipai area is much less built-up and consists of some of the primary conditions which pre-date industrialization of the rural areas – original agricultural land with rice paddies and fish farms. During the industrialization of rural China, a certain amount of agricultural land had to be retained by law, prescribed by yearly built-up allowances, delegated by central government. Provinces get assigned quotas which are then distributed amongst the cities, counties and towns. (Wu 2007: 31) Behind these policies is another strategic deliberation by the central government; namely, *"the problem of importing food is always unsettling"* (Oi 1999: 60) and the idea of famine for a country of 1.3 billion is an important issue. The famine of Great Leap Forward is a recent memory.

.....  
<sup>5</sup> Please refer to chapter 6.3 for a definition and description of shaking-hands village on the example of Lijiafang village.

*Figure 5-14. Comparing Dongguan Proper to the interlocking character of the Chashan-Shipai area. © Google, June 2009.*

For these reasons, the central government, despite the wild industrialization of the coastal regions, is cautious, and therefore some of the agricultural land is always retained even in entrepreneurial and enterprising regions like Dongguan, who built one of *"China's first highway planned, funded, and constructed completely by a prefectural municipality [G91 in Figure 5-10] without any input from the central or provincial government"*. (Lin 2006: 39)

The official land use map (Figure 5-16) shows an incredible array of land uses and even more progressive fragmentation of these uses. Figure 5-15 tries to aggregate the similar land uses and reveals a relatively evenly distributed land use. Even so, there is no immediately apparent spatial logic. From both figures it seems as if industrial estates, housing and agriculture are mixed without any particular order. A more in-depth analysis of the growth pattern is required to understand its inherent logic.

---

*Figure 5-15. Land use in the Chashan-Shipai area © Compiled, drawn and calculated by Tomaz Pipan for the MA thesis. Based on analysis of orthophoto by Google January 2007.*

*Figure 5-16. Land Use Map of entire Shipai Township © Guangdong Provincial Institute of Urban and Rural Planning, accessed at [baidu.com](http://baidu.com) in February 2014.*

DONGGUAN ECO-INDUSTRIAL PARK



Figure 5-17. Orthophoto before and after the Eco-Industrial Park development was initiated. January 2008 (left) compared to June 2012 (right). The rice paddy area is being completely transformed into the artificial lake. Additional landscaping is continuing. © Google.

The uneasy status quo between industrialization and agriculture warranted by the state is being challenged by the Dongguan regional government (Figure 5-17) pushing for "rescaling strategy" (Lin 2006: 48) claiming the agricultural land for new Eco-Industrial development based on "*comparison between Dongguan and its formidable rival Suzhou [that] has led local officials to recognize the advantage accruing to Suzhou*" (Lin 2006: 46) In addition, in 2008 a strategic PRD document was created by the National Development and Reform Commission that clearly sets new direction for the whole PRD. In short, the 2008 – 2020 goals are to upgrade the "well-being" of the PRD inhabitants by transforming the PRD from a region predominantly catering for process and assembly (P&A) industry into a highly "added value" region, where industries are technologically on the cutting edge and heavily augmented by research and development (R&D). They especially stress the development of and support for local knowledge generated and sustained within the PRD to reduce dependence on knowledge brought in by the foreign capital. This shows an important shift from a strategy providing global production of goods to a strategy that also provides know-how and talent to innovate new products.<sup>6</sup>

The PRD strategic document reads like a shopping list of wishes. The priority areas and strategies for developments are: 1. to build a modern industrial system (refocusing onto high-tech and refurbishing the traditional one) 2. to improve the capability of independent innovation (business, university, collaboration with Hong Kong, creating new knowledge innovation zones, fostering industrial know-how and innovation), 3. to promote infrastructure modernization, 4. to enhance resource conservation and environmental protection.<sup>7</sup> On the pretence of sustainable development rooted in strategic plans for PRD combined with the success stories of more densely organized rivalling Suzhou, Dongguan prefecture level government has decided for a new model of industrial development that allows agricultural land to be used for further industrial developments.

The new master plan confirmed in June 2006 combines ecology, tradition, know-how and industry as general strategic concept and basis of commercial land capitalization (Figure 5-18). Under the flag of "ecological development", Dongguan has obtained permission to develop its 30.5 square kilometres of prime agricultural land under the name of Dongguan Eco-Industrial Park. It is portrayed as a "*major strategic deployment made by Dongguan Municipal Party Committee and Municipal Government in the transformation period.*" (Eco-Industrial Park investment guide 2011-2012: 4) The development will rely heavily on Foreign Direct Investment. So far companies like Samsung, Nestle and Kyocera are shown as examples of investors<sup>8</sup>.

.....  
<sup>6</sup> National Development and Reform Commission, <http://dqs.ndrc.gov.cn/>  
 Articles: [http://dqs.ndrc.gov.cn/qyzc/t20090109\\_255505.htm](http://dqs.ndrc.gov.cn/qyzc/t20090109_255505.htm), [http://dqs.ndrc.gov.cn/qyzc/t20090423\\_274136.htm](http://dqs.ndrc.gov.cn/qyzc/t20090423_274136.htm)  
 Document obtained from <http://politics.people.com.cn/GB/1026/8644751.html> on March 2013

The People's Daily is a daily newspaper in the People's Republic of China. The paper is an organ of the Central Committee of the Communist Party of China (CPC), published worldwide with a circulation of 3 to 4 million.

<sup>7</sup> Guangdong Provincial People's Government Office, [zwgk.gd.gov.cn/](http://zwgk.gd.gov.cn/) accessed on May 2013

<sup>8</sup> Source: <http://www.dgep.gov.cn/publicfiles/business/htmlfiles/dgstcy/s23311/list.htm>, accessed on April 2012

Figure 5-19. LEFT: Rice paddy fields before Eco Industrial Park on 2008 visit. MIDDLE: Same area in 2012 visit. RIGHT: Landscaped area along the main canal that has replaced the rice paddies.  
© Tomaz Pipan, 2008 and 2012

Figure 5-20. Artist's rendition of the main lake in Eco-Industrial Park © Dongguan Eco-Industrial Park, accessed at [www.dgep.gov.cn](http://www.dgep.gov.cn) in February 2011.

The land was acquired by the Dongguan Municipal Party Committee and Municipal Government, the major investor into the ecological segment of the park (the landscaping and the water filtration system). The local villagers were compensated 10.000 RMB (£1.000) per person for the land.<sup>9</sup>

In October 2008 the Eco-Industrial Park Administrative Committee was established, whose task is to develop the business part of the park by attracting the investors and FDI. In 2012 the first FDI investments were signed, totalling at 6.75 billion Yuan (Eco-Industrial Park investment guide 2011-2012). However on my 2012 and 2013 visits, only the water purification wetland, the impressive lake basin and the Eco-Industrial park head offices, had been built in the park which is also confirmed by the 2011 presentation booklet (Dongguan Eco-Industrial Park presentation booklet, Chinese version 2011: 6) . There was no sign of any industries on the last visit.

Just as in the PRD strategic plan, the Dongguan Eco-Industrial masterplan reads as a very ambitious development. The central part, the Chashan-Shipai area, is supposed to be developed into a variety of districts such as a "Hi-tech R&D District", "Modern Service Industries District", "Ancient Village Cultural District", "Central Administrative Business District", "Wetland District" and a "Tourism and Leisure Park". The description of the plan in the Chinese brochure puts forward the ecological and traditional values and outlines the connection to local communities. The project is branded as a "well-being" improvement for local inhabitants with the opportunity for economic development that is *"committed to construction and development of ecological civilization; to build a new society of green harmony and happiness."* (Dongguan Eco-Industrial Park 2011: 13)

<sup>9</sup> Information acquired by Tomaz Pipan on May 2012 visit, through unstructured anonymous interviews of local inhabitants and a visit to the planning office of the Dongguan Eco-Industrial park.

On the other hand, the brochure brands "*industrial ecology*" as "*basis of economic and social ecology*". This word concoction is supposed to paint high-end industry as the basis for sustainable future and as an answer to all the economic and social problems thus, technology becomes an answer to all the problems and questions of human finitude<sup>10</sup> (ibid: 9).

This demonstrates that, despite the central government's laws, industrial capital finds a way to push out low income agriculture. Under the pretence of an "ecological industrial park" the local township and prefecture level governments are creating a corporate image of the area that sells green landscape design and abundant water as "ecological". The artist's impression as shown in Figure 5-20 is indeed green but there are at least three important queries. First, how truthful will the final "ecological park" be to the impression? Second, will the artist's impression that portrays the notion of ecology be implemented in the industrial processes as well? And third, is "ecological" also "sustainable"? The land that was previously producing food has been turned into a landscape design showcase which does not contribute to the sustainable development of the area (Figure 5-19), taking away the resources for food production and replacing it with resource-intensive development (dwelling + industry). Ecology and sustainability are contemporary incarnations of the politicising of nature for the benefit of capital. The limits of ecology and sustainability as development strategies are addressed in more depth through the parallel example of Detroit's decline in chapter 7.3 and a final reconciliation and speculation on the possibilities in reference to the Eco-Industrial Park are addressed in Chapter 8.

<sup>10</sup> The capacity of technology to address questions of human finitude is further discussed in chapter 7.2. The specific topic of ecology in reference to question of nature and its role in economic capitalization is explored in chapter 7.3.

### 5.2.2. Stages of Rural Urbanization in China

From this outline of Dongguan's development in general and rich negotiations underway in Chashan-Shipai area, we can deduce that the present condition cannot be simply classified as rural or urban; it is neither city nor countryside. Before going any further, we have to identify, name and distinguish the condition that we are trying to describe from other conditions and urbanization phenomena in China and elsewhere in the world. In the most general terms, we can say that appropriation of the landscape for the purposes of the growth of contemporary urban settlements has resulted in many different spatial phenomena. From "favelas" in South America to "shanty towns" in South Africa and India, from "suburbia" in the United States to the "Zwischenstadt" in Germany, each of these contemporary types of growth have their own distinct characteristics, social and spatial orders. Therefore it is only fitting to have a properly distinct description name for the urbanization of the Chinese rural environment, particularly because the urbanization of China's countryside is very "Chinese" and as such tells a completely different story from any previously recorded examples.

Different academic sources that deal with China's contemporary rural conditions use different classifications and names (Guldin 1997, Ginsburg et al. 1991, Friedmann 2005, Lai 2006): from "integrated rural-urban areas", "*desakotas*" (a designation derived from Indonesia), and "peri-urban areas". In addition, the question of naming is even more problematic as not all the areas are at the same level of urbanization. Some have more industries, some are more built-up, some look entirely like cities and again others possess large areas of agriculture. Further, this suggests that it is also appropriate to differentiate in terms of both the topography and typical conditions which result from the rich metabolism of different people with different backgrounds, aspirations and customs. Nonetheless, a useful regional scale description of such areas is provided by Ginsburg et al. in their term "*desakota*".

The claim of "corridor urbanization" in the countryside will be discussed further in Chapter 6. Here it is sufficient to make a comment on the name *desakota*. This comes from the fusion of two Indonesian words "*desa*" meaning village and "*kota*" meaning city. This terminology is culturally biased; the Indonesian village has completely different cultural and historical meanings (topography) from the Chinese equivalents, for both village and city. If anything we could be using a fusion of Chinese words; represented by signs 乡 "*xiang*" denoting a village or a township and 市 "*shi*" denoting a

market town or a city, creating a "*xiangshi*" neologism. For the time being we will refrain from doing so and call the condition by its economic process. As already established, the predominant change that contributes to urbanization is industry, therefore we shall refer to this kind of peri-urban growth as "rural industrialization".

"Rural industrialization" describes the urbanization of the Chinese countryside most faithfully and with the least amount of cultural, political or other bias for two reasons. First, before the onset of the open economy, this was countryside with a deeply agrarian culture where villages and market towns were the main civic structure. Second, urbanization of these areas happened on the basis of intense industrialization of the countryside – a process that lifted China out of poverty (Oi 1999, Benedict et al and Selden 1998, Peng 2001, Guldin 1997). This industrialization had (and still has) distinct Chinese characteristics, economically, culturally and socially. This has been already indicated implicitly in the examples such as land reforms, grassroots government system, TVEs and the fragmentation of the territory.

Therefore rural areas, due to changes in policy, went through a radical transformation in a matter of 30 years. Depending on local policies and physical location these transformations were more or less intense. A classification of the stages of rural industrialization and subsequent urbanization remains open to debate. For example, Guldin (in Guldin ed. 1997: 47) defines three processes, awkwardly derived from the Chinese as "deagriculturization", "townization", and "cityzation". On the other hand, Zhou and Zhang (in Guldin ed. 1997: 71) define four ways of urbanization based on geographic location, namely: city periphery, market towns, rural areas and industrial zones. This classification concerns administrative entities rather than actual topography of specific areas. In the same vein, at the regional scale of analysis we can speak only of the relationships between the agricultural and the built-up areas, and therefore we base our classification on these.

*Figure 5-21. Location of Figure 5-22 sample areas. LEFT: Historical map from 1949. © Great Britain War Office. RIGHT: Map from January 2009 © Google.*

Figure 5-22. Bottom Row: stages of industrialization as they exist around the Chashan-Shipai area in January 2009. © Google.  
Top Row: the condition of these areas before the rural industrialization in 1949. © Great Britain War Office.

For our purposes, a brief and crude classification on the basis of historical maps from 1949 and current orthographic images from 2009 is sufficient. Figure 5-22 shows five different areas in Dongguan and shows their 1949 and 2009 conditions. From these images we can broadly identify three stages of development – or more precisely – three distinct relationships between rural land and industrialization:

- First stage (Figure 5-22-1): Agricultural land with villages, an initial rural condition.
- Intermediate stage (Figure 5-22-2): Agricultural land with villages dominates, first industries are built, and new housing is developed.
- Second stage (Figure 5-22-3): Agricultural land with villages is balanced with industry and new housing.
- Intermediate stage (Figure 5-22-4): Agricultural land and villages are only patches in a condition otherwise dominated by industry and housing.
- Third stage (Figure 5-22-5): Agricultural land disappears entirely and villages are completely swallowed up by a mesh of industry and housing.

This classification is crude and would definitely benefit from more detailed research. One of the unaddressed questions are the intermediate stages since it is hard to say from a visual inspection if they constitute a different kind of place. However as we will be focusing on actual topographies and their descriptions, the general description on this scale is sufficient to carry the argument further. On one side we have a rural village environment, on the other a dense city-like environment. The in-between stage that has a mixture of both qualities is what we are interested in.

This mixed "second stage" is the Chashan-Shipai condition from 2008 (Figure 5-17, left) – before the Eco-Industrial Park started being developed (Figure 5-17, right) – with agricultural land in between urbanised areas. The subsequent implementation of the Eco-Industrial Park gives us further relevant material to address the questions of industry and agriculture as well as of technology and nature. In the "second stage", the interlocking and mixing of agriculture, industry and housing and a high degree of fragmentation is most prominent (Figure 5-16), and this kind of condition is central to enquiry of this dissertation. "Third stage", a city-like condition, becomes much more settled and defined. It is the fragmented condition that shows the most promise in regards to the hypothesis about accommodating change, flexibility and has glimpses of possible long-term sustainable development. In all these stages, the main character can be described as an "uneasy" negotiation between the new industrial developments and the agricultural land and its practices. This contested landscape opens up the possibility for addressing different horizons of engagement, confronting the questions of nature and tradition on one side with questions about industrialization and progress on the other. This is a rare opportunity to attempt a reconciliation of the modern world based on technology and science with the traditional world based on nature and tradition. This is explored deeply in Chapter 6 through

description of local topographies. Before venturing into analysis of local topographies, a short account of regional development of Dongguan is in order.

### 5.2.3. Regional Urban Pattern

In order to explain the topography of the territory, we must first understand how areas grew and what their regional pattern is. For this, the idea of corridors is useful. Industrialization was primarily initiated along new road infrastructure, mainly disregarding the existing local roads as they were not adequate for the "efficiency" of industrial endeavours. This meant that industrialization would usually grow along main transport roads, such as that connect city centres with regional centres like Dongguan proper with Shenzhen proper.

This type of "corridor" growth (Figure 5-24) has been identified as intrinsically Asian and the process has been recognized by many scholars e.g. Guldin (1997: 54), Sui and Zeng (2001: 37), Ginsburg et al 1991. As previously discussed, Ginsburg and McGee call it "*desakota*"<sup>11</sup> which is characterized by dense industrial band-like developments in parallel with agricultural land (Figure 5-23) (Ginsburg et al. 1991: 4-7).

*Figure 5-23. Spatial configuration of hypothetical Asian countr. © Ginsburg-McGee, Ginsburg et al 1991: 6.*

<sup>11</sup> Please refer to chapter 5.2.4 where the case is made against the naming of these areas as *desakota*. However, despite this naming inconsistency, the description by Ginsburg McGee gives an adequate example for the regional pattern.

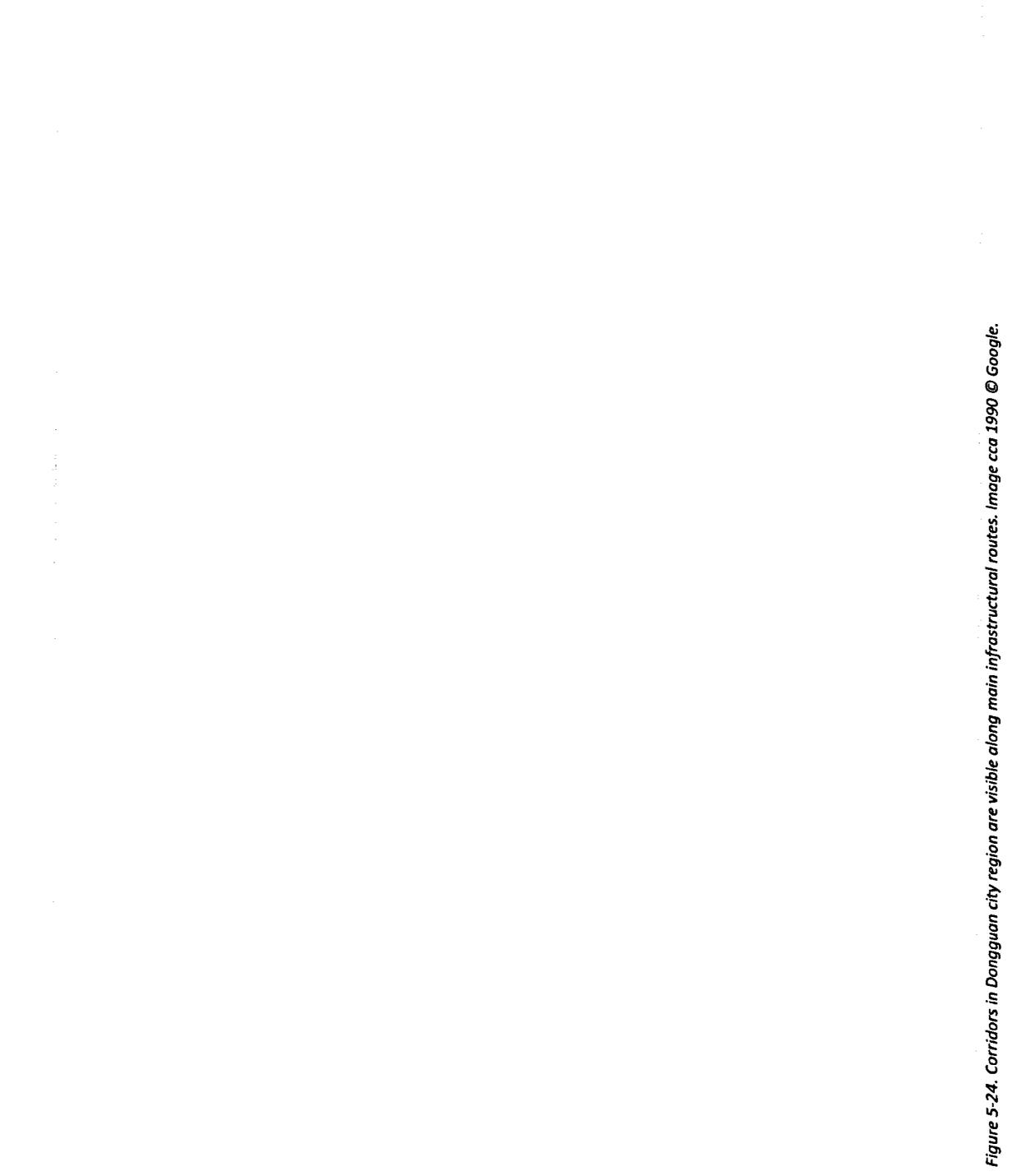


Figure 5-24. Corridors in Dongguan city region are visible along main infrastructural routes. Image cca 1990 © Google.

One of the more intriguing qualities of this pattern does not register on the regional level. The proximity of different types of land uses and their intense adjacent condition is only visible at a "local" scale. The unplanned development and interlocking character of this fabric gave rise to a unique spatial condition, mixing together dwelling, industry and agriculture in a very fine grained manner (Figure 5-25). Close spatial relations between production sectors can be observed, very different from western zoning logic. This may indicate that there is a way to make industrial and rural areas part of a new civic order and part of a new urban experience.

*Figure 5-25. Spatial proximity and adjacency between industry and dwelling in the Chashan-Shipai area is one of the intriguing consequences of rapid industrialization of this area. © Tomaz Pipan for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings.*

In order to understand this mixed condition, it is important to consider the road infrastructure and how different buildings and developments "accrete" around it. Understanding the local scale of urban pattern will also help us to better understand the regional. A more careful analysis of local conditions suggests a revision of the corridor idea put forward by Ginsburg and McGee.

#### 5.2.4. Growth of Urban Pattern

The scholarly evidence for the corridor idea of development is quite strong. Nevertheless, to date it has been impossible to find any records that document in detail the development of Chashan-Shipai area specifically. On the basis of the 1949 historical maps, the current conditions in the area and evidence of the different stages of development in the vicinity, we can piece together a reconstruction of how the industrialization might have happened.

These images of Figure 5-26 represent different stages of rural industrialization found at and in the vicinity of the Chashan-Shipai area (Figure 5-27). What follows is an attempt to understand these changes in connection to the historical and policy developments explained in the chapter 5.1. This give us an opportunity to derive a more informed urbanization model and get us closer to the intricate topographies of the area. In other words, by understanding what type of growth happened and under what economic, political and social conditions an interpretation can be made about what type of places have developed and how they are used.

*Figure 5-26. Different stages of growth of corridors. © Google, June 2009.*

*Figure 5-27. Sampling of the Figure 5-26. Areas that can be still seen in different phases of industrialization. © Google, February 2012.*

**AGRICULTURE WITH RICE PADDIES (Figure 5-28)**

This represents the initial condition. In the area of the PRD villages were usually slightly bigger and more compact as this was a hot, humid delta region. Agricultural land was fairly extensive and one village would manage a large agricultural area. The general pattern was of tightly packed "*nucleated villages (jicun)*" (Knapp 1992: 14).

*Figure 5-28. Area 1 in Dongguan © Google June 2009.*

Figure 5-29. (Images not to scale) LEFT: An organization of villages in lower Yankzi River (similar conditions to Pearl River Delta) © Knapp 1992: 14. RIGHT: Chashan-Shipai area in 1949 © Great Britain War Office.

This pattern is also apparent from the 1949 maps of the Chashan-Shipai area (Figure 5-29, right), an organization that predates both industrialization and the collectivization of communist times. It is a rural network of towns and villages – the main physical organization on the basis of which an "agricultural" civic order was established. This is consistent with the notion of China as an agrarian society, defined through the reciprocity between humans and the natural order, and a deep connection to the land. In other words, the land laid claim to the city-village network as the ultimate reference for custom and meaning where *"China's cities were but knots of the same material, of one piece with the net, denser in quality but not foreign bodies resting on it"*. (Mote in Skinner 1977: 105)

This village network organization was the substrate of civic life in rural China in the imperial era. It supported the cultural organization that was closely connected to nature, to the rule of rites, ancestral worship and strong family hierarchy<sup>12</sup>. This communal ethic, where obligation to the community comes first and rights of the individual second (Friedmann 2005: 91), is a recurring and deeply ingrained trait of Chinese society, which has strong collective notions based on reciprocity between Taoism and Confucianism. In turn, these constructed the civic order of each village (refer to chapter 6.1 and the example of Tangwei village). Reversal of rights and obligations as compared to Western understanding, is one of the most fundamental aspects of traditional Chinese society. It therefore serves as one of the main bases on which to site any discussion of an alternative civic order.

Traditional inclination to favour community is one of the reasons why communism was so successful and one of the reasons that central governance supports grassroots local governance and collective

<sup>12</sup> For a detailed account about a cultural and social order of ancient China please refer to the Chapter 6.1.

TVEs. However, in terms of social order, communism took "communalism" to the extreme, which culminated in worker's communes in the countryside and "danwei" (production units) in the cities. The private space of the individual was abolished; everything was subject to communal law for the greater good. This extreme condition also removes the freedom for civic participation, as the community does not represent a space for reconciliation of conflicts but rather a space geared towards production.

**ROAD INFRASTRUCTURE (Figure 5-30)**

*Figure 5-30. Area 2 - new road infrastructure waiting for development. It disregards the existing order of village and rice-paddies. Some preparations of new plots is already evident which also disregard the rice-paddy grid. © Google, June 2009.*

After the fiasco of the Great Leap Forward, the new socio-economic formations called TVEs helped to jump-start rural industrialization and lifted peasants out of poverty. The communal TVEs combined with the open economic zone policies propelled processing and assembly industries in Dongguan. This was the first step in the development of rural industrialization as corridors. Dongguan adopted a direct investment strategy for rural urbanization and invested heavily in road infrastructure. First, the prefecture level government invested into regional roads as well as the main local level network, connecting townships together.

Then, townships and Village Committees had to further develop this network with the help of foreign direct investment. They had to follow general zoning and strategic plans (that also involved urbanization quotas) set by the prefecture government, but were otherwise free to capitalize on economic opportunities.

Mainly, this road network followed a regional infrastructural order of efficiency, connecting the places of industrial production to the international ports and cities (Shenzhen, Guangzhou, Humen (port), Hong Kong, Macao). As the old village roads were largely inadequate, the new infrastructure disregards administrative village boundaries and rice field divisions. In the majority of cases, the order of the infrastructure was super-imposed onto the area. After the roads were put into place and plots prepared, the second phase of a "corridor" build-up began. With the help of foreign direct investment, new industrial compounds were built, complete with industrial sheds filled with imported machines and dormitories to house at least a portion of the workers.

**BUILDING NEW FACTORIES (Figure 5-31)**

*Figure 5-31. Area 3: the road infrastructure is ready, plots are rented out and new factories are built. © Google, June 2009.*

The next step involved Village Committees redeveloping farmland through expatriate connections and direct connections to foreign interested investors. After approval by prefecture level government they and their foreign partners began to build the industrial compounds. These bring with them their own internal order. In the majority of cases they consisted of P&A halls, an office building and dormitories for the workers<sup>13</sup>. This created a local metabolism within the confines of the factory compound.

.....  
<sup>13</sup> More detailed description under the Regional Corridor chapter. A detailed topography of one industrial cluster in Chapter 6.

However, the internal order of industries can never be completely hermetic<sup>14</sup>. Factories cannot provide dormitories for all the workers they employ, plus some will need cheaper accommodation. The big influx of migrant workers cannot be accommodated by the factory housing alone. As a result, as well as leasing out agricultural land, local villagers began to expand their villages.

**VILLAGE EXPANSION (Figure 5-32)**

*Figure 5-32. Area 4: existing villages are expanded – “shaking-hands” villages are built in the area between the industrial estates and historical villages. Local villagers usually move to new buildings and rent out the old houses in the village. © Google, June 2009.*

.....  
<sup>14</sup> In our case, where we are dealing with smaller industrial units this is true. However, if we take as a reference big industrial compounds like Foxconn in Shenzhen, they are actually entire cities with their own shops, canteens, movie theatres, etc. In these cases the internal order of the industrial compound is indeed much less connected to the rest of the area.

Village expansion is typically managed by a Village Committee by designating an area of land for a new shaking-hands village. However each family is responsible for building their own house and usually also have to fund it. After the house is completed the family moves in and rents out the old village house to migrant workers.

This has expanded the villages towards the new industrial areas. Because migrants do not speak the local dialect, they tend to stay segregated, sometimes creating a community of their own. This has started a peculiar organization where villages within villages have started to emerge. Each part *"spoke their native dialects, maintained their eating habits, lived in close community, and shared strong feelings for their home districts."* (Guldin 1997: 243).

This leads us to believe that there is a very complex local metabolism of different ethnic groups, migrant workers and local villagers that inhabit the same and adjacent places and somehow live side-by-side. It creates a confusing new "civic" order where by custom and habit people are still used to communal living from the villages but have been rapidly transplanted to an environment that is much more densely built and mainly dedicated to economic efficiency and resource capitalization.

The above described urbanization process is repeated; more land is acquired for the industrialization effort by the Village Committee and industry expands. This again starts the cycle of migration that expands the villages.

---

**NON-INDUSTRIAL EXPANSION (Figure 5-33)**

*Figure 5-33. Area 5: a more built-up area of the regional corridor, where housing and industries inhabit adjacently the space of regional road infrastructure. © Google, June 2009.*

When townships grow, they do not expand solely through industrial growth and housing acquisition by the villagers. The regional masterplan not only zones for industry but also for commercial and housing provision. In these situations, the ground floor is taken by a service like a bank, a post office, small shop, even a kindergarten and the floors above are dormitories, or sometimes apartments for the more affluent. Figure 5-33 shows this later stage of urbanization where regional infrastructure becomes inhabited by the tertiary sector and housing.

The tightly packed houses along the new roads are also places of a new form of local life. Better road connections to regional and global centres together with industrialization bring in a different set of values. Peasants and migrant workers are faced with consumer culture. Caught between two worlds, the local ethics are combined with the values of the western world.

The communal nature of life with all its peculiarities is still present, but is augmented with the intrusion of global culture. The images below (Figure 5-34, Figure 5-35) demonstrate this juxtaposition. The local factory entrance acts as a place of meeting, across is a dormitory with "public program" (billiards, canteens, shops, etc), that act as public living room where workers fraternize, shoot pool, eat ice cream, drink beer and relax. These are the places appropriated in a rural, communal fashion and although they are not exactly rural market towns or villages, nor are they urban squares and shopping streets. They are peculiar places of peri-urban life in rural industrial areas where the communal spirit of the collective uses the streets as living rooms.

*Figure 5-34. Dormitory in front of a bigger industrial compound. The ground floor and the street acts as a living room for the migrant workers.*  
© Rawan Massood,, 2012, tutored by Tomaz Pipan.

*Figure 5-35. Appropriating the street as a living room of a collective.* © Tomaz Pipan, 2012.

## **TWO CORRIDORS AND A REVISION OF THE "DESAKOTA" MODEL**

In conclusion we can summarize the mechanism of growth through a simulation done in an area of the Shipai township (Figure 5-36).

*Figure 5-36. Simulation of industrialization. 1: Original condition of rice paddies and villages. 2: New infrastructure is superimposed. It avoids the existing villages. Industries start to attach. 3: Existing villages are expanded with "shaking-hand" villages toward the new infrastructure accommodating. 4: Industries grow along the new infrastructure. More "shaking-hands" villages are built by the locals. 5: Mid-end housing starts to develop along the new infrastructure sometimes replacing industry. 6: Current stage of industrial corridors and accompanied housing. © Tomaz Pipan for the MA thesis. Simulation represents an imagined reconstruction from the final condition (image 6) developed backwards to illustrate the process of industrialization.*

Extending the idea about corridors onto a larger scale, the programmatic analysis of the Chasan-Shipai area in Figure 5-37 shows a strong separation into industrial areas and local dwelling areas. Industry (red) accumulates along the infrastructural grid. It starts as a corridor and develops into a series of monofunctional areas. The corridor pushes out agriculture, which also starts to decrease. Local dwelling ecology (grey) develops between the industrial production corridors, spawning from villages (black). This, more loosely connected configuration of villages, new shaking-hands villages and newer housing could be labelled as a "local topography" where the mix between local and migrant population is the highest.

*Figure 5-37. Analysis of programs in the Chashan-Shipai area clearly demonstrates two types of corridor agglomerations. One of predominantly industry and the other predominantly of housing. © Tomaz Pipan for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings.*

The above explained model of growth continues to create two distinct organizations that mesh together (Figure 5-38). The first organization is a regimented "regional corridor" along infrastructure managed and operated by local village governments (black). The second organization is an organic and fragmented "local topography" – a loosely connected sequence of villages and newer "shaking-hands" houses, bound together by the old network of local roads, ponds and banyan trees (red). Local ecology is built-up by individual efforts of every family, but still under the management of Village Committees. The drawing shows these two spatial elements very distinctly. The difference is apparent from the grain, size and types of buildings.

*Figure 5-38. Meshing of the two corridors in the Chashan-Shipai area. © Tomaz Pipan for the MA thesis. Analyse and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings.*

*Figure 5-39. The negotiation of two corridors. We can define two types of growth. First, the regional corridor accounting for freight transport and regional connections. It accumulates mainly industry, but also caters for rudimentary services and dense housing. Second, the local topography that accounts for aspirations of local population. © Tomaz Pipan for the MA thesis.*

This detailed account of the development process shows that there are two types of corridors that negotiate and mesh together. This suggests that the Ginsburg-McGee model should be revised in light of the detailed analysis above. The mixed condition of agriculture, industry and dwelling (what Ginsburg and McGee refer to as *desakota*) is a much more fine grained topography that can only be understood as a consequence of specific economic and social developments rooted in land rights and policies, as well as historical references to traditional orders. On this basis, we were able to describe the regional structure as a richer and more situated account. A "hypothetical Asian country" model (Ginsburg et al 1991: 6) and in particular the part pertaining to the *desakota* phenomenon should, in regard to the specific character of Chashan-Shipai, be rethought as shown in Figure 5-39.

This thesis has so far established a correlation between the regional urban structure and political and historical (cultural) reasoning. An illustration of the civic order that resides within has also been shown. To better understand the described organizations as topographies (as places of civic life) we shall attempt a more detailed description of the two segments identified.

### 5.2.5. Local Topography

*Figure 5-40. Local corridors in the Shipai township. © Tomaz Pipan, composite drawing redrawn from Google 2007 orthophoto and 1949 historical map from Great Britain War Office.*

A local topography is a loosely connected sequence of different elements (old villages, new shaking-hands housing, ponds, banyan trees, schools, etc.). Figure 5-40 shows two such corridors "negotiating" the area between the industrial estates in Shipai. The red areas indicate the size and position of initial villages in 1949 – before industrialization. These are the kernels of expansion from which the local topography grew. Red paths are from the same era<sup>15</sup>. Some of the historic paths fell into disuse as they were disregarded and built over by industry as is apparent in the upper right

<sup>15</sup> Information obtained from historical maps of Great Britain War Office. 1949. "China (Kwangtung Province), Series GSGS 4691". London: War Office

quadrant. Nevertheless, those still in use today act as a local spine along which the local topography grows. This spine weaves between the different areas and connects the different elements together (Figure 5-41). More distinct elements (typologies) of this ecology are: old villages, new shaking-hands housing, ponds, allotments, fish farms and rice paddies. The ecology has a strong sequential order; if one were to walk along this local spine different types of places would reveal themselves one after the other (Figure 5-43). The local topography that mainly consists of dwellings is stitched together by intermediary typologies shown in Figure 5-41. Elements like ponds, school courtyards, parks, etc. can be understood as clustering devices around which different dwelling groups organize. This also means local corridors do not function as one connected sequence along the spine, rather it operates as individual locales gathered around central places identified in Figure 5-41 that are then connected to the regional corridor.

*Figure 5-41. Local infrastructural spine knits the loosely connected local topography together into a corridor. © Tomaz Pipan for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings*

This is not a coincidence. The ponds adjacent to villages have historical significance and are indeed, together with historical villages themselves, one of the most permanent structures of the industrial-rural areas. The permanence of villages in China is truly spectacular; it goes so far that there is a special typology called the Urban Village (Figure 5-42). These are villages that got swallowed up by

the urbanization process and became part of the city. Due to land rights and legislations, these urban villages remain signs of the strength of local politics.

*Figure 5-42. Xian Village, Zhujiang New Town, Guangzhou, China © Steve Bromberg*

The historical order of the village mandated the place of the village to be marked by a natural feature like a pond, banyan tree, sometimes a bridge. These elements "*provided an area for common activity, a focus for identity, and perhaps a name.*" (Knapp in Knapp ed. 1992: 9)

This shows that the internal order of the village was derived from its connection to the natural environment, with a sequence from the rice paddies (nature) to the village environment (Figure 5-43). This order was very exact, all the way down to the organization of the houses<sup>16</sup>. The local variant of the traditional courtyard house is called a "*tijanjing*" or sky-well house, that is a "*a modification of the traditional courtyard house, modified especially for the southern Chinese [climatic] conditions*" (Hammond in Knapp ed. 1992: 100). These, packed close together, define a typical village and can still be observed in many places today (Figure 5-44).

<sup>16</sup> For a more detailed description, please see section 6.1.

Figure 5-43. A sequential order of different places within the local corridor: from the outskirts, where the village is connected to rice paddies to the main local road, and a place of local economy. © Tomaz Pipan, 2008, 2012 and 2014

*Figure 5-44. Traditional village typology and the tianjing courtyard house typology © Tomaz Pipan. Reconstruction based on Google orthophoto and Knapp 1992.*

This typology and its topographic order were seriously challenged by industrialization. As we can see from Figure 5-43, the ponds are still prominent places within the new ecology of the local corridor, although the question remains if they have retained any of their historical importance or if their role within the civic order has changed. Areas around the ponds used to be the "living rooms" of the villages, where all the communal work would happen. What type of life do they support now and what function do they have in the contemporary civic order?

Perhaps we can borrow an insight into the significance of such places from Western culture. In the process explored above, families from the village move to new shaking-hands houses that build up around the pond, and older village houses are then leased to migrant workers who usually stay within

their cultural groups, creating villages within villages. We can therefore see places like ponds as new neutral grounds where different social groups can come together and interact in public. Something similar was true for the New York Central Park, but on a much bigger scale. Nevertheless let it here serve as an example for the case in question.

*Figure 5-45. Central Park New York, USA © LEFT: Anonymous, 1984, courtesy of Library of Congress, accessed at Wikipedia on 2010. RIGHT: Google, 2010*

Central Park (Figure 5-45) was envisioned as a central body of "tamed" nature that would give the local population a retreat from the noise and chaos of the city. Yet Central Park became more than just a retreat, it was a place where different social groups, rich and poor, immigrants and locals were able to interact and meet. With its distinguished refinement of nature it gave a sense of formality but was an informal gathering space nonetheless. The combination of these factors could be seen as a device to "civilize" the worker and immigrant class and make them more like the ruling elites in terms of conduct and behaviour, thus trying to lessen the social and cultural tensions between them.

In other words, Central Park provided a "common ground" for people of different customs and social backgrounds to meet and learn how to live with one another.

The village ponds, banyan tree areas and bridges can therefore claim a similar type of meaning in the ecology of a local corridor as Central Park did when it was opened in 1857. This was still a time when the population of New York was very linguistically and culturally divergent, not unlike present day Dongguan. This "social function" is further researched in axonometric drawings in chapter 6.3. In addition to the "socializing" effect of places like ponds, these communal places have special significance in Chinese culture, related to the ingrained sense of communal ethics. The importance of hierarchy, order, harmony and duty to one's community are still strong, and this is even more the case

within the micro-communities of the migrants. The described topography begins to show an order that retains fragments of tradition, particularly as the migrants come from rural areas. A more in-depth account of the details of this follows in chapter 6.1.

*Figure 5-46. Places of new public life in the regional corridor across Shipai township. © Tomaz Pipan, 2008 and 2012.*

The local topographical order found in and around the previously existing villages is a parallel world to the new topographical order of the regional corridor (Figure 5-46). Communal life is vividly present in the new places – the entrances to factories, around adjacent canteens, and outside linear houses along the roads. On this basis it appears that there are two separate foundations for a joined topography. One within the local, and one within the regional corridor (or at least in the regional corridor adjacent to the local, where the majority of the population dwells). We can also observe that communal life is moving towards the intersections between the local and the regional corridors, where services and new linear housing emerge and where people go to work in the factories.

There seems to be a contest between the traditional order of history and the new order of technology and economy. It feels that this battle is most evident in these interstitial and contested areas and that the negotiation between the local and regional corridors embodies an uneasy melding of different attitudes towards nature. How much of the traditional order still exists, further research in chapter 6 will clarify. However, topographical elements like ponds, *tijanjing* courtyard houses, ancestral temples as well as village celebrations and customs are a strong indication that at least fragments of traditional references and attitudes still exist. In order to better understand this uneasy balance, we still have to explore the qualities of the regional corridor.

### 5.2.6. Regional Corridor

*Figure 5-47. Regional corridor. © Tomaz Pipan, composite drawing redrawn from Google 2007 orthophoto and 1949 historical map from Great Britain War Office.*

The regional corridor (Figure 5-47) is a tight and dense urbanized area dominated by industrial compounds. These are organized sequentially along the main roads, with each having good access to for delivery of materials and resources and to ship out the finished products. Regional corridors tend to develop into monofunctional areas as is evident in the upper right quadrant of Figure 5-47. These are industrial zones, planned or accreted, that can span across administrative village boundaries. Industrial zones are a single-use environment geared towards industrial production and efficiency, where any other type of organization is pushed out – including agriculture. The individual industrial compounds within the industrial zones work as introverted clusters. The adjacent organization of

clusters is evident in Figure 5-48. Buildings that belong to one cluster are organized around the main courtyard which is always directly accessible from the main road. This quality favours long band-like developments along main regional roads, hence creating the corridors. When an area of industry grows on the basis of this mechanism the road grid within the area becomes disconnected and it develops more like separate corridors than a network (Figure 5-49).

*Figure 5-48. Sequential ordering of industrial clusters along the regional corridor. © Tomaz Pipa for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings.*

*Figure 5-49. LEFT: Inverted character of industrial clusters. RIGHT: Disconnected network. © Tomaz Pipan for the MA thesis. Analysed and redrawn from initial orthophoto from Google, January 2007. The interpretation done on the basis of size and organization of the buildings.*

Industrial compounds are clusters of buildings that are streamlined for an industrial process of production and assembly of various goods. Figure 5-50 shows different scales of organization of one such cluster, and Figure 5-51 and Figure 5-52 a typical industrial cluster along the corridor with its internal life.

*Figure 5-50. Industrial compound: Everything is geared toward production. TOP: good infrastructural connection to bring goods in and out . MIDDLE: typical industrial shed for assembly of products: rows of work stations along the assembly line. BOTTOM: industrial buildings are clustered around a central open space where trucks can come and load. © Tomaz Pipan. Reconstruction based on Google, visits and other sources.*

Figure 5-51. Kay Yo plastic moulding Co. Typical small sized industrial compound in Shinni. © Goran Vukovic, 2012, tutored by Tomaz Pipan.

Figure 5-52. The Kay Yo plastic moulding Co. LEFT: Dormitories (from the back). MIDDLE: Entrance to the compound with moulding building left and management right. RIGHT: finalization and packaging. © Tomaz Pipan, 2012.

Within bigger industrial clusters, the company also provides dormitories, sometimes shops, canteens – everything that a worker needs – in order to streamline the production process and create the largest possible output in the shortest amount of time. Chang gives a succinct description of an industrial compound:



*Figure 5-53. Location and approximate size of the Yue Yuen factory compound in Dongguan Proper (the actual housing area that is part of the industrial compound might be bigger) © Google, May 2014*

The Yue Yuen factory (Figure 5-53) is a compound of 70,000 workers in Dongguan Proper; a city within a city, where recent strikes in April 2014 over unfair pay and benefits happened (Kaiman 2014, Wong 2014). This draws an attention to one important problem regarding the new regional topography. The industrial clusters in regional corridors are producing their own internal orders

streamlined for production and economic efficiency. Any other considerations about life are subordinate to this function. This "flat" order, where participant's only meaning and freedom is commitment to production for meagre wages is present also in Chashan-Shipai area, however due to the smaller sizes of compounds, its topography is still connected to the life of the rest of topography. The majority of industrial compounds do not cater for all the provisions (working, sleeping, eating, hospital) and hence the order of the regional corridor (its ruthless efficiency), is mixed with the local (historic, traditional) one. The hypothesis is that a composite civic order exists negotiating between the local and regional corridor.

Although this is examined in depth later in the thesis (section 6.2), it is useful here to consider an example of the mixing of different orders. The example of the Eily Clothing Machinery Co. confirms this reordering of the local topography. It suggests a strange mix of contemporary economic order with the traditional that is emerging in the less regimented areas of the regional corridor.

The Eily Clothing Machinery Co. is a Hong Kong based (invested) company that builds industrial machinery for garment producers. Founded in 2002 it employs 500 workers<sup>17</sup>. The factory is a small-scale local enterprise founded by foreign direct investment from Hong Kong. The online video presentation of the company shows the wellbeing of the workers and refers to a stimulating working environment<sup>18</sup>. In addition, the video talks about the importance of harmony in the working environment and that a harmonious working environment is a happy working environment. The reference to harmony has historical and traditional precedents but the connection to tradition does not finish there. Another example is the entrance portal to the factory (Figure 5-54) where Chinese Imperial guardian lions called *Shishi* clearly mark the doorway. This is a distinct connection to the tradition, history and cultural heritage. The *Shishi* dragons traditionally guarded the entrances to palaces, temples and homes of distinguished officials (Figure 5-55). In traditional times, people believed that lions had protective capabilities. They are always placed in pairs, guarding the entrance and are still in use today, especially in public places like museums, restaurants and hotels.

<sup>17</sup> Source <http://www.eily.cn>, accessed on February 2012

<sup>18</sup> [http://www.eily.cn/newEbiz1/EbizPortalFG/portal/html/ProgramShow.html?ProgramShow\\_ProgramID=c373e92500c92e3a8ffa9ffff398e5e](http://www.eily.cn/newEbiz1/EbizPortalFG/portal/html/ProgramShow.html?ProgramShow_ProgramID=c373e92500c92e3a8ffa9ffff398e5e), accessed on February 2012

Figure 5-55. Shishi Chinese guardian lions. From left to RIGHT: Forbidden Palace (Ming dynasty), Forbidden Palace (Quing Dynasty) Beijing, National Palace Museum, Taipei and Daci temple in Chengdu. © All Public Domain, accessed at Wikimedia in April 2012.

This peculiar placing of the lions in front of a factory is not just a connection to history and tradition; rather it has a deeper significance in terms of the topographic order. But what does this placement mean in terms of the factory as a place? Is it still merely a factory? We could argue that this act is an attempt to turn the place of factory from that of the pure economic production into a place where someone is supposed to feel protected, welcomed and taken care of (and indeed the video emphasises the good working environment). The symbolic meaning of the lions plays on the values of ancient China – Confucian ethics, importance of the home, family, hierarchy and so on. This distorts the predominantly capitalist landscape of these small-scale factories and brings them into the domain of traditional Chinese culture. Can this be seen as grafting of Chinese traditional notions of community, harmony, family, obligation onto the capitalistic economic model – or is it a cynical manipulation of these values? It is hard to establish such an apparently farfetched connection only on the basis of an image and a video. However, it does give us a hint of how the life of the local corridor is claiming the life in the regional and how tradition is being (ab)used for capitalist purposes.

### 5.3. Conclusion: Rural Urbanization in Dongguan

Rural China, especially the special economic regions, is one of the richest environments to study the effect of rural urbanization and the consequences and detrimental effects of industrialization. It gives a good insight into the question of nature and our attitudes towards it. In this chapter, we have outlined an overview of recent history and policies focusing on land reforms. We looked at events from Communist times through the opening of the economy to global markets and finished with a brief description of the recent state of affairs. The main themes were: land reforms, state-, communal- and individual ownership of land, the *hukou* household registration system and TVEs as rural engines of the economy. In addition, we mentioned a distinct governing system that combines centralistic state and grassroots governance in the form of Village Committees. We then described the specificities and peculiarities of the Pearl River Delta industrialization model, such as role of foreign direct investment, processing and assembly types of industries, corruption and the *guanxi* system. With that, we discussed open access and limited access institutions and touched on the question of migrant workers. Further, we outlined and defined the model of rural industrialization using the example of the Chashan-Shipai area in order to understand the principles of negotiating corridors, one accommodating global capital and the other lives and aspirations of the local communities. The structural analysis of Chashan-Shipai area also provided the basis for a brief description of topographies within the two corridors. This represents a framework for the following chapter 6, where the "typicalities" of Shipai and its topographies will be researched in more depth so as to distinguish and define "traditional" and "techno-capitalistic" attitudes towards nature.

#### **GENERAL FINDINGS**

The general finding of this chapter is that the organically grown industrial areas that are not completely regimented offer an interesting area of research. The topographic order that negotiates between the regional corridors and the local topography is a promising avenue of deeper research in order to understand how to reconcile contemporary and historical culture as a prerequisite for a sustainable future.

#### **CAPACITY FOR COMMITMENT AND ROLE OF INSTITUTIONS**

China has a long tradition of central governance that reaches as far back as the ancient empire of Qin dynasty (221 – 206 BCE). The question about commitment to community is a cultural trait reinforced

by values and norms set forth by philosophies like Confucianism<sup>19</sup>. In times of socialist political reforms, especially during the Great Leap Forward (1958 – 1961) this obligation was refocused onto worker's communes. Traditionally responsibilities to the community were valued above individual rights. The most telling incarnation of this is *hukou* – the household registration system still in force today. It ties an individual's rights and responsibilities to their birthplace hence implicitly binding them to a traditional system of responsibility towards family and the village community. This is changing as the *hukou* system is being slowly liberalized.

Even though *hukou* is being relaxed, rural areas still value tradition. The capacity for commitment is further dependent upon social status and position in the local hierarchy, governed by family allegiances and *guanxi* connections. *Guanxi* was traditionally a skill of lobbying and politics governed by a strong ethical and moral code (again rooted in Confucianism) but it is lately increasingly serving capitalist imperatives and the gains of individuals. This is shown in the structure of local government and Village Committees. They are good examples showing how once rural areas mediate between responsibilities and rights. In general we can still observe a "limited access" order where local government elites are oscillating between traditional responsibility to community on one hand and economic capitalization for personal profits on the other.

The most marginalized are the workers, as it seems that their commitment, apart from the traditional responsibility to their family in an ancestral village, is merely to wages. However that too is starting to change; as China gains affluence so workers increase their capacity for civic participation and become more vocal, through strikes, online digital media like micro blogs, or desperate acts like suicides (Reuters 2010, Dean and Tsai 2010). The latter are a sad testament to the competitiveness and pressures of Chinese culture and as such should not necessarily be attributed solely to working conditions. The Chinese are very competitive and traditional with high expectations for responsibility to family.

### **ROLE OF INDUSTRY**

Industrialization of rural China had an immense impact on its development. The most significant was the impact of township village enterprises that allowed for non-agricultural capitalization of rural areas across China. Even though the majority of these enterprises were small, private and rapidly

<sup>19</sup> Confucianism teaches an ideal society where the moral values and ethical conduct of individuals is based on benevolence and setting a good example. The Confucian ethical code, which is at the heart of traditional Chinese culture, is one of a strong ethical position that is shaped and learned through education, example and adherence to benevolent but strict social norms. These are upheld through filial piety, loyalty and ceremony. The rule by example and benevolence dictated a reciprocal relationship between the one dispensing the rule and the ruled that was based on altruism. Only through sacrifice for a common cause, could a balanced and harmonious society be achieved. Just as the oldest male was the head of the family, the king was the head of the empire, hence the highest level of ethics should be evident in the behaviour of the king's exemplary and benevolent rule.

declining in the end of 1990s, it is their big brothers – the communally owned TVEs that became the hallmarks of Chinese modernization. Communally owned TVEs in special economic regions across coastal China powered the unprecedented expansion and development of which Dongguan is the most interesting example. Here foreign direct investment represents the majority of capital that needs to be managed communally within the villages for which Village Committees are responsible. This practice lends itself well to the grey economy, mixing traditional conduct and accommodation of global markets generating a wealth of entrepreneurial practices of rural industrialization that can vary from village to village.

### ***ROLE OF ARCHITECTURE***

This political richness and speed of development has direct consequences on the fragmented structure of rural-industrial areas across China as is apparent from an analysis of the Chashan-Shipai area. Here urban organization of corridors accommodates two different types of growth. On one hand we have the regional corridor, mainly catering for industrial production and good infrastructural access, on the other we have a local topography where aspirations of local communities are played out.

These two structures are intertwined and create a dense overlapping of both conditions. Typologically the differences can be seen in grain and size of buildings and programs. The regional corridor is organized sequentially offering good connections to each industrial compound and therefore catering to economic efficiency. Local ecology is a more loosely and richly connected sequence of individual clusters of old villages and new "shaking-hands" villages. These are structured through traditional places like banyan trees, ponds and more recently through recreational spaces like basketball courts. This shows that traditional patterns and customs still play an important role in everyday life.

## 6. Topography of Shipai - Negotiation of Orders

This is the central chapter of this PhD thesis. It tackles the fundamental difference between traditional and techno-capitalistic attitudes towards nature and sets out the main topic of investigation, the role of industry in a contemporary city. Throughout the chapter different concrete typical situations<sup>1</sup> (or "typicalities") and a number of in-depth case studies of particular areas in the Shipai township of Dongguan are used to explore the capacity of the new industrial topography to support (or fail to support) an alternative civic order.

The interplay between the regional distinct features (the regional corridor and local topography) defined in chapter 5.2 provides the underlying structure for the more fundamental negotiation described here. The swiftly industrialized areas of Dongguan give a unique opportunity to study the effects and consequences of a conflict that lies at the heart of contemporary culture and is not restricted to China. It is an apparently unresolvable dispute between the fragmented reality of technology (refer to chapter 2.1 and 7.2.2) on one side and the continuities of traditional order on the other. Vesely poses this conflict as a question, *"how to reconcile the inventions and achievements of modern technology, which have already established their autonomy, with the conditions of human life, our inherited culture, and the natural world."* (Vesely 2004:7)

This thesis treats the split between modernity and tradition in Shipai and the PRD as a conflict between two topographic and civic orders. We are designating these two divergent orders as the "traditional" and the "techno-capitalistic" and they are distinguished by fundamental differences in their treatment of nature and their relationship to the natural environment. These orders are explained through the lens of "nature" in order to describe and judge their capacity to sustainably accommodate the change and transformation inherent in late capitalism for different participants.

It can be argued that nature has in contemporary culture different incarnations, from scientific and technical descriptions of material processes with an emphasis upon efficiency, to political and moral concerns for sustainability, to sentimental attachments to views, to animals and to holidays (that are themselves another "industry"). The fast-changing, fragmented reality of late capitalism promotes multiple interpretations of nature, all apparently of equal value (usually utilitarian). Latour talks about matters of scientific fact and matters of value or concern and the importance of understanding that

.....  
<sup>1</sup> Typicality or typical situation is a term used to overcome the limitations of the architectural use of 'type', which hardened from its neoplatonic origins in Quatremere de Quincy to something that meant a basic pattern of architectural organisation. It emphasises the architectural object as a model for interpretation, whereas typicality refers to the situations (with particular décor, history, people, practice) for which architecture is the interpretation.

whatever way nature is presented, it is always from a specific point of view, with a specific agenda, and that there is no more "*risk free objects*" that exist free of judgment (Latour 2004: 25, 35)<sup>2</sup>.

Only if we recognize that there is no objective reference to nature can we start to appreciate our engagement with it and be truthful in any attempt to change our attitudes.

The techno-capitalist order is a particular species of this fragmentary contemporary world which sees nature as the objective "reality" of material objects and processes, and is a specific incarnation of neo-liberal capitalism in China<sup>3</sup> as witnessed in the SERs. On the other hand, traditional culture has a much more compact and metaphorical interpretation of nature, spawning from concrete engagement with the world. The traditional order is based on agricultural practices rooted in the interpretation of natural forces, lunar and yearly cycles and similar natural phenomena. Throughout history these practices were inscribed into popular beliefs and religious ceremonies, and in the case of China, created an ethico-historical interpretation of the natural conditions, most notably exposed in Confucianism and the Imperial hierarchy (justice) to Daoism, feng shui/geomancy.

Establishing communication between these two readings of nature is an open problem. This chapter investigates if actual real-world situations, such as rural industrial areas like Shipai, can offer a place where this communication is possible. In other words, it explores the hypothesis that the apparent conflict between the techno-capitalist and traditional orders is reconciled through their intense co-existence and the emergence of a composite order.

In general, this reciprocity between the two orders is known from the history of industrialization across the world, and claiming that co-existence of traditional and contemporary orders is something new or intrinsically Chinese would be an overstatement. However, the contrast between the two is highly visible in rapidly industrialized rural areas in China, and specific political and cultural conditions have allowed an intense reconciled cohabitation to develop.

To explore these claims, the argument is structured as follows. The first part discusses the traditional order using the Qingming Scroll as a vehicle for understanding. The explanation of this order is based on references to traditional concrete engagements and nature. This creates a very different attitude to the immediate surroundings in terms of civic commitment and the exercise of freedom to what is

.....  
<sup>2</sup> For a more detailed discourse on contemporary understanding of nature, ecology and sustainability please see chapter 7.3.

<sup>3</sup> The official name for the Chinese economic system is "Socialism with Chinese Characteristics". The Chinese party officials argue that the market economy we are witnessing in China today is still in line with Marxist ideas and is a transitional stage on the way to pure socialism. In this sense, private ownership is temporary and considered non-socialist. However the current strategy is in favour of a gradual transfer to socialism going through necessary stages, as opposed to Mao's approach that aimed to jump to a complete socialism from an almost feudal society.

common in contemporary technological culture, outlined in the second part: the techno-capitalist order. Here, it is argued that one of the main features of the techno-capitalist order is the abstraction and mathematization of reality and that technology is a facilitating instrument – a framing device. The technological interpretation of nature is further explained on the basis of Heidegger and his concept of "Ge-stell" or "enframing", showing how freedom for civic commitment is replaced by commitment to capitalist ideas of consumerism. Neither of the two orders exist exclusively and without interference. Contemporary rural-industrial China is a mixed set of horizons. Therefore the third part of the chapter explains a composite order that is emerging and how it refers to both previously described orders. There are kernels of a new type of civic commitment possible within this composite order and they are emerging within the regional corridor as well as in the local topography, since horizons of engagement can range from contemporary to traditional references.

Within each part the order under examination is evaluated in terms of its fundamental understanding of nature and against its limits in terms of questions regarding freedom and civic commitment and is investigated through the role of architecture and institutions.

## 6.1. Traditional Order

First, we turn our attention to tradition and to traditional attitude towards nature. This will act as a reference for later comparison with the techno-capitalist order. The reasons for taking the traditional attitude towards nature for our basis are threefold. First, as a precondition we argue that in spite of a Cultural Revolution<sup>4</sup>, Chinese culture still draws strongly from its traditional references thanks to its extraordinary historical continuity of at least 3500 years. Second, traditional ways of life had a much clearer alignment with nature due to practices spawning from concrete engagement, such as agriculture which in turn has structured culture and even more importantly, attitudes towards the city and civic engagement. Third, fragments of tradition carry authority which allows reconciliation between contemporary conditions and traditional, concrete engagement.

*Figure 6-1. Title page from Folk Magazine blog. © Folk magazine, accessed at folklifestyle.com in April 2013.*

With all of the above said, we should caution against a "romantic" reading of tradition and nature that is a cyclic recurrence in history. These references are evoked time and time again; we could give the 18<sup>th</sup> century Arts and Crafts movement as one example; the writings of John Ruskin and the teachings of William Morris. There are earlier ones like the Virgilian evocation of the pastoral life and, even earlier, Hesiod's "golden age", not to mention the biblical Garden of Eden. All these themes take nature as the opposite to "man" with a duality between natural and man-made, positing nature as the role model for human endeavour. Cronon (1996) exemplifies how this "sacred" nature creates a problem for thinking about nature and the human condition as we can never achieve its godly ideal.

.....  
<sup>4</sup> The Great Proletarian Cultural Revolution, commonly known as the Cultural Revolution (Chinese: 文化大革命; pinyin: Wénhuà Dàgémíng), was a social-political movement that took place in the People's Republic of China from 1966 through 1976. Set into motion by Mao Zedong, then Chairman of the Communist Party of China, its stated goal was to enforce communism in the country by removing capitalist, traditional and cultural elements from Chinese society, and to impose Maoist orthodoxy within the Party. Accessed at Wikipedia on April 2013.

Human agency is always seen as being outside and opposite nature. He uses the example of wilderness (untainted and primal - the highest ideal) as an unattained ideal as "*is the place where we can see the world as it really is, and so know ourselves as we really are – or ought to be.*"<sup>5</sup> (Cronon in Cronon ed. 1996: 80)

Therefore, here we are not aiming to recapture an idyllic interpretation of simpler times that belong to a selective, poetic reading of history. In popular culture, these "pastoral" readings of nature are formalised in superficial adjectives such as "fair trade", "eco-", "bio-" "local-"; readymade concepts to be consumed by this culture. This resurgence of a simpler way of life as a "lifestyle" (Figure 6-1) is a consequence of the fractured reality we live in today and is an ad-hoc remedy to address the anxieties of the modern urbanite, based in discontinuities of meaning and a misguided interpretation of praxis as something idyllic and romantic<sup>6</sup>. Good examples are life-style magazines like *Folk* that "*is devoted to presenting a fresh and youthful interpretation of simple country lifestyles*" (Folk magazine 2013)<sup>7</sup>

The "traditional" agricultural life was never "fresh", "youthful", "simple" or romantic. It was everything but; full of real problems connected to survival, to the land and therefore to concrete engagement with nature. This quality of a "real" connection to nature is under investigation here, not as something to return to, but rather as a horizon of engagement that offers an alternative understanding of the world, one that helps us think of our fractured reality, without abandoning it completely or surrendering to romanticism.

<sup>5</sup> For additional references and description of the problem of reconciliation between the sublime and pristine nature and man, please see chapter 7.1.1 (on Morris and Ruskin) and more specifically chapter 7.3.3 (ideal nature as something devoid of the human).

<sup>6</sup> Please refer to chapter 7.3.3 and the argument explored in more depth through Cronon 1996, mentioned above.

<sup>7</sup> <http://www.folklifestyle.com/about>, accessed on April 2013.

### 6.1.1. Concrete Engagement and Traditional Nature

To explain the concepts behind what we are calling "concrete engagement" and "traditional nature" we will use a Song Dynasty Qingming scroll presently held in Beijing Palace Museum (Figure 6-2). The Beijing Qingming scroll (henceforth referred to as the Qingming scroll) is the earliest known version of this famous depiction of Chinese culture and its life. It is commonly agreed that it portrays life in and around the city of Bijanjing (today Kaifeng), at the time the capital of the Song dynasty (960 – 1279). The 5.25-metre long scroll is attributed to artist Zhang Zeduan (1085 -1145). There have been 20 – 30 subsequent renditions and variations of this theme throughout the history of China, depicting life during various epochs and dynasties. Some versions depict only segments (most frequently the rainbow bridge) yet others are a complete reworking of the entire scroll. The second most famous complete rendering is from the time of the Qing dynasty (1644 - 1912), now housed in the Taipei Palace Museum. The Qingming scroll has become the standard for the depiction of a traditional era. It seems to represent everyone's understanding of "tradition" and "culture" in China.

The Chinese title 清明上河圖, pinyin: Qīngmíng Shànghé Tú, is most commonly translated as "Along the River During the Qingming Festival". It is agreed that the original scroll portrays daily life during spring time during the Qingming festival. *"Its name denotes a time for people to go outside and enjoy the greenery of springtime (踏青 Tàqīng, "treading on the greenery") and tend to the graves of departed ones."* (Wikipedia accessed April 2013) On the other hand, academics sometimes speak in favour of Qingming meaning *"peaceful and orderly"* that *"fits nicely with the idealization so prevalent throughout the scroll."* (Hansen 1996:5)

The title and the depiction both work with horizons of engagement (see below) that refer to orderly life in line with peacefulness like that of primary order of nature. Through that, we gain a useful connection to the praxis of culture that is rooted in natural cycles, traditional continuity and genealogical time. The scroll and the Qingming festival are both examples of time-out-of-time, offering reflective insight into the values of the depicted culture and its concrete engagement with nature.

The richness and depth of "traditional culture" can be noted in the scroll's level of detail, that later versions find hard to achieve. In that sense, the Qingming scroll gives us a wealth of information to draw upon for the purpose of explaining concrete connection to nature. The author strives to capture as many details as possible; from the types of people, routines of daily life, and technical details of buildings, bridges, to cultural attire, attitudes and customs.

Figure 6-2. *Along the River During the Qingming Festival*, Zhang Zeduan, Song Dynasty, 12<sup>th</sup> century © Zhang Zeduan, 1085–1145, accessed at [www.zhlzw.com](http://www.zhlzw.com) in April 2013.

*Figure 6-2 continued.*

*Figure 6-2 continued.*

The Qingming depicts registers or "horizons of engagement" that the topography of traditional China was engaged with. It illustrates orderly everyday life through daily encounters and situations ranging from the countryside, through a market town to a city. The movement from right to left of the scroll also traces a spectrum that proceeds from nature to throne – from natural to man-made; or from divine to the rule of man. Typical handling and viewing of the scroll is piecemeal; from an arm's length distance, unrolling and reading it from right to left to reveal sequences of everyday situations and typicalities. By doing so, the viewer is invited into narration, rather than seeing the whole image as a totality.

The scroll (Figure 6-2) starts with a landscape and motif of the rural in the morning and ends with a city street scene in the afternoon. The act of unrolling draws the viewer into the situations depicted. These are made even more present and explicit by the rigorous attention to detail with which every person, donkey, boat, tree, river eddy or house are drawn (Figure 6-3). The scroll shows the wealth of the culture through its conduct, people and everyday life depicting "*the large- and small-scale enterprise so characteristic of the twelfth-century commercial revolution*" (Hansen 1996:2)

The Qingming scroll is not only instructive in terms of civic engagement and the conduct of life but also in terms of concrete knowledge about nature and natural processes. For example, the detail of section 4 (Figure 6-4) gives us an example of the know-how about pruning called pollarding, that "*made tree roots grow longer, and so strengthened the river banks on which the trees were planted.*" (Hansen 1996: Section 4) This shows an in-depth knowledge about yearly climate cycles and an understanding of nature.

*Figure 6-3. Section 7 of the Qingming scroll. The morning in the town. © Zhang Zeduan, 1085–1145, accessed at [www.zhizw.com](http://www.zhizw.com) in April 2013.*

*Figure 6-4. Section 4 of the Qingming scroll. The willow trees. © Zhang Zeduan, 1085–1145, accessed at [www.zhiw.com](http://www.zhiw.com) in April 2013.*

The fact that they possessed this knowledge as such is not significant, however the fact of it being depicted in this way is. The detail shows what kind of knowledge is important to the author – knowledge embedded in "material" culture, based in praxis. This depth of knowledge can also be sensed in the making of the wheel (Figure 6-5), or revealed in the intricate detail of bridge construction techniques (Figure 6-6).

In addition to these intricate details, section 17 and 18 together (Figure 6-5) show a typical life that existed in towns and markets. The mercantile culture flourished and was part of daily communal life; characterised by a mixing of private and public spheres through the appropriation of the street. Private space was extended into ground floors and onto the streets in front of the buildings by the presence of restaurants and other services. This still persists today and can be observed in the appropriations of the regional corridor as described in chapter 5.2 and more in detail in chapter 6.3.3.

Section 13 (Figure 6-6) shows the underside of a rainbow bridge where a structure of laced wooden construction technique is visible. This construction system is unique, creating an arch structure with a clearing for boats out of straight wooden elements, instead of more expensive stone. The technique depicted changes the load-bearing concept from that of a straight beam working under tension into an arch working under compression. Using wood instead of stone in this way represents a high level of ingenuity to cut down costs and transport, as wood was readily available and cheaper than stone.

The example of Qingming scroll give us a range of motifs capturing the traits of the culture which were deemed important and interesting enough to depict. This kind of reading of the Qingming scroll permits us to conclude that the importance of the civilization depicted lies in its understanding of what we would call natural laws through the praxis of making that supports the flourishing of the civilization through knowledge. In other words, in this reading, nature as understood in the traditional order has the unique quality of concrete engagement with situations, objects and people rooted in the material knowledge required for praxis. The significance of this ancient praxis lies in the fact that fragments of it can still be found in the contemporary composite order described in chapter 6.3. This can be attributed to historical continuity and the resultant unity of Chinese culture.

Figure 6-5. Section 17 and 18 of the Qingming scroll. Typical merchant street in Song dynasty. © Zhang Zeduan, 1085–1145, accessed at [www.zhlzw.com](http://www.zhlzw.com) in April 2013.

*Figure 6-6. Section 13 of the Qingming scroll. Detail of the rainbow bridge. © Zhang Zeduan, 1085–1145, accessed at [www.zhizw.com](http://www.zhizw.com) in April 2013.*

**HISTORICAL CONTINUITY AND CULTURAL UNITY**

The cultural unity of China persists *"straight from the brilliant flowering of the bronze age in about 1500 B.C. right up to the present, a completely continuous, individual and self-conscious civilisation of an extremely high level; one might say, one nation with (basically) one language, one script, one literature, one system of ethical concepts, one tradition in the arts, including one architecture."* (Boyd 1962: 5) This continuity could be even longer, although this is disputed, as historical records such as "Records of the Grand Historian"<sup>8</sup> and the "Bamboo Annals"<sup>9</sup> trace the beginnings of the first Chinese Dynasty of Xia to 2100 BCE.

Even though we could argue that Western civilization also developed continuously and that we can trace some of its beginnings to Mesopotamia, the history that led to the shaping of "Western Culture" comprises a still not wholly resolved amalgam of often competing cultures, languages, symbols, etc. In this sense, China did not have such "anomalies". Even though there were times when the Chinese geographic region was not ruled by a single dynasty, China retained its cultural unity. This was possible for three significant reasons.

First, cultural unity is ingrained in ceremonial practices such as ancestral worship and filial piety. These are still practiced widely as a consequence of adoption by Confucianism yet ancestral worship *"was already a main element of the religion of the Bronze Age proto-feudalism 1500 – 221 BCE."* (Boyd 1962:8)

Second, cultural unity has been retained due to widely practiced philosophical and religious activities that have defined cultural norms, such as Confucianism (after the 5<sup>th</sup> century BCE) and Daoism (the beginnings of which can be traced to the 4<sup>th</sup> century BCE). Finally, and most importantly, it is due to reforms that were instigated by the First Emperor Qin Shi Huang (259 BC – 210 BC), the founder of the Qin Dynasty (221 BCE–206 BCE), which introduced a unified writing system. After the disparate petty kingdoms had culturally crystalized, the influence of the unified writing system was not spread by conquests and colonization but by cultural weight. The shifts in territory that happened should therefore be understood as internal struggles for dominance between different noble houses and dynasties that existed within a shared Chinese cultural and geographical territory.

<sup>8</sup> Records of the Grand Historian or Shiji, simplified Chinese: 史记, 109 BC to 91 BC, author: Sima Qian.

<sup>9</sup> Bamboo Annals are Chinese court records written on bamboo slips, from the state of Wei during the Warring States Period (475–221 BCE).

### **STRONG CONNECTION TO NATURE**

The cultural continuity brings with it a continuity of religious practices rooted in reconciliation between the natural and man-made worlds. This trait in turn substantiates a tradition with a strong connection to nature through practices such as Daoism and feng shui (see chapter 6.1.2 for a case study).

Feng shui is a coded system that defines a set of norms for favourable placing of a village within its natural setting. Based on feng shui, villages and market towns developed as integral parts of the natural environment, as its "natural" continuation and never as distinct features imposed onto the landscape. *"Many Chinese villages barely stand out from the physical environments within which they have arisen, with only blurred boundaries marking areas of residence from adjacent cultivated land."* (Knapp 1992: 8)

In other words, feng shui can be understood as a code of practice for sustainable building and a repository of *"practices grounded in indigenous philosophies and human experiences"* (Knapp 1992: 35) that has developed through historical experience and through the trial and error of concrete engagement with local conditions. This notion is consistent with Daoism and the idea of cosmic harmony between the human, the natural and the heavenly. In fact, there is a wealth of academic research, surveyed by Snyder (2006) that support the argument that *"Eastern religious traditions might offer antidotes to the environmentally destructive trajectories of Judaism and Christianity"* (Snyder 2006: 100). For example, Daoism anticipates what is termed as "ecological consciousness" in the Western culture as it offers *"the first and most impressive expression of ecological thinking and living"* (Marshall cited in Snyder 2006: 114).

### **NATURE OF CONCRETE ENGAGEMENT**

These ancient practices, based on first-hand experience, show just how well connected the traditional Chinese culture was to nature. As argued previously, this condition of concrete engagement spawns from cycles of praxis usually connected to agriculture, which are informative with regards to how much land is available, what the water and weather conditions are, when to plant crops, when to harvest, how to store grain and so forth. Moreover, the cycles of praxis are not limited to matters of production, but are inscribed in rites and ceremonies that include family genealogies, law, religion and art, and are therefore consequently instrumental in establishing culture, civic life, architecture and culminate in depictions like the Qingming scroll. Returning again to the scroll, section 25 (Figure 6-7) shows just how important these practices were for the legibility of the traditional Chinese culture.

Figure 6-7. Segment 25 of Qingming scroll. Detail of a crossroads in the city within the city walls. © Zhang Zeduan, 1085–1145, accessed at [www.zhlzw.com](http://www.zhlzw.com) in April 2013.

Under these conditions, history is a matter of continual renewal of original – inevitably natural – conditions, whereas the techno-capitalist order explained in chapter 6.2 perceives history in terms of constant change, destruction and replacement. The way of life of the traditional order stretches back and forth from the datum of the Qingming scroll and as argued in Chapter 6.3, its fragments can still be sensed today. A purely historical order is no longer present within current topographies; however it gives us a reference point for a later discussion on the emergent composite order and the possible reinterpretations and reconciliation between history and techno-capitalism. The practices of Daoism and feng shui are from a different epoch, nevertheless in fragmentary form they still exist today, and frame a small but significant part of contemporary debates on the Chinese city<sup>10</sup>. However we are not arguing for the benefits of total continuity or discontinuity, but for an understanding of the framework in which agricultural village life evolved. Within this domain practices of Daoism and feng shui played a vital role as will become apparent in the next chapter. It is also important to note the limits of this understanding and that reference to these historical concepts should be taken cautiously rather than as an explicit means for interpretation as it is impossible to base new interpretations of urban orders on cosmological unilateral meaning alone.

<sup>10</sup> The references to feng shui are also in use by modern developers however their motives are purely economic, a re-appropriation of traditional practices for the sake of land capitalisation and profit.

### 6.1.2. Topography of Tangwei Village

To see what fragments of tradition survive in today's practices we now turn to a description of a village fragment where the traditional relationship between humans and nature is embodied and made explicit in the architecture and in the making of the place.

Many studies on the subject of rural urbanisation in China show that local village communities are still largely governed by remnants of traditional norms and practices. (Guldin 1997, Lin 2006 and 2009, Leng and Zhu 2010, Bolchover and Lin 2014). The civic space of the village is still governed through the local community, village leaders that are to an extent organized on the basis of rites, strong family ties, communal law, ancestral temples and worship – in effect as a "limited access" order. As mentioned in chapter 5.1 this *guanxi* (dynamic of personal relationships and rites) is also the root of the grey economy and local business conduct. In 1987 this grassroots village organization was translated into a form of direct democracy by way of an Organic Law of Village Committees. This instituted the right of people with local village *hukou* – peasants and villagers – to elect village-level governance in form of Village Committees<sup>11</sup>. The significance of this local governance for this piece of research is in its affinity to tradition, local culture and concrete engagement, its positive and negative effects will be addressed in chapter 7.3 and 8. For now, we focus on the role of its spatial ordering and architecture and how it supports this traditional order.

Historically the grass roots governance system, based in birth and place structured not only village conduct but also the organization of the village, from village markers like banyan trees and fish ponds to the hierarchy of houses and ancestral halls. These canons were inscribed into practices like Daoism and feng shui of which a prime example is the beautifully preserved Tangwei village in Shipai township (pinyin Tāngwéi simplified Chinese 汤唯) (Figure 6-9). The village features a completely preserved historical layout and organization containing architecture from the Ming (1368–1644) and Qing (1644 – 1912) and a wealth of reliefs and masonry details (Figure 6-10). In May 2006 the village was designated a Dongguan province cultural monument<sup>12</sup>.

<sup>11</sup> Please refer to chapter 6.3.2 for a full history and explanation of the Organic Law.

<sup>12</sup> All the information acquired from online archives, namely the Dongguan Cultural Network ([http://dgwh.dg.gov.cn/zixun/map/whly/content\\_13681821.htm](http://dgwh.dg.gov.cn/zixun/map/whly/content_13681821.htm)) and Baike Baidu (<http://baike.baidu.com/view/1413303.htm>) on April 2013

*Figure 6-8. Location of the Tongwei village. LEFT: condition in 1949. © Great Britain War Office. MIDDLE: condition in 2011. © Google 2011. RIGHT: location of main square and Figure 6-12. © Google 2011.*

*Figure 6-10: Masonry details and reliefs on the ancestral homes and houses. © Tomaz Pipan, 2013.*

The village layout is especially praised for its natural features and its connection to the environment. It represents a prime example of traditional spatial order and how it is set within the landscape on the basis of feng shui.



As apparent from this description, the traditional order responsible for etiquette and civilized conduct is directly mirrored in the organization of the village. The majority of the buildings have an egalitarian character which accentuates the communal nature of village life. The old banyan tree is a strong locational marker representing the entrance to the village, with a subsequent sequence of prominent gates at the entrance (Figure 6-11).

References to the crab<sup>14</sup> and the feng shui placing of the village refer to the reciprocity between agriculture practices, nature and the life of the village. The fertile land referred to in the description has now been replaced by industry (Figure 6-8), however the health (and wealth) of the village and its villagers cannot be disputed. They moved out of the old village to the newer shaking-hands housing and are now renting their old houses to the migrant workers. Thus, the old village is a museum relic – "heritage" yet villagers still centre their ritual and cultural lives there, with traditional practices described below, and in yearly festivals such as that shown in Figure 6-16.

The order resting upon traditional values and connections to nature can further be exemplified by examining a fragment of the village (Figure 6-12).

.....  
<sup>13</sup> The original reads:

塘尾明清古村落依自然山势缓坡而建，围前三口鱼塘一大二小，分别代表蟹壳与两只蟹钳，围面两口古井代表两只蟹眼，仿生喻意一只巨蟹守护后面的村落和前面的千亩良田。古村落布局合理，由围墙、炮楼、里巷、祠堂、书室、民居、古井、池塘、古榕等组成很有特色的聚族而居的农业村落文化景观。

<sup>14</sup> The Crab signifies prosperity and status because the Chinese word referring to its shell is a pun on the highest score a candidate can make on the Chinese Imperial Examinations (first, or *jia*). Two Crabs represent the first and second scores of the Examinations.

*Figure 6-11 The south approach to the village with the banyan tree, the wall and the gated entrance. © Tamaz Pipan, 2013.*

*Figure 6-12. Birds-eye perspective view of a village fragment. ©Julija Domariska 2012, tutored and additionally reworked by Tomaz Pipan.*

This fragment is a prominent place in the village, with a fish pond, two ancestral homes and a public building for the local community (Figure 6-13). In the communal building locals play cards, mah-jong and shoot pool most of the time (Figure 6-15), but the community building also acts as a place for meetings and decision-making on all facets of daily life. As a whole, this can be read as a political – civic space where disputes and conflicts of the village are discussed and handled.

The arrangement of this fragment is typical of traditional Chinese villages. It is an intrinsically rich organization where horizons of engagement "orbit" around topics dealing with family, ancestral worship, history, culture, management of the village, what to do with the land, etc. This shows the level of commitment to the civic order of the village, and further, the organization and topography of the sequence is "geared" towards this order. The deeper structure is revealed through the layering of elements that constitute the area (Figure 6-14): the entrance gate has an altar to local gods and an L-shaped entrance, where a visitor has to turn a corner, to keep the evil spirits out (as they can only travel in a straight line). A curved path leads past a joss-paper furnace for burning offerings onto a square. Here, the most prominent building (the communal building where civic disputes are handled) is lined up with the ancestral halls, where villagers still remember and worship their ancestors at special events like the ancient Qingming festival (Figure 6-16). Even though the majority of villagers have moved to the vicinity, this still represents the locus of the community and its civic heart.

Figure 6-14. From left to RIGHT: Village entrance tower; turning a corner in the tower; curved path; the water well; square with a Jos burning oven. © Tomaz Pipan, 2013.

*Figure 6-16. Yearly festivities at the Tangwei village. A photograph on the wall of a newly established restaurant in the village. © Tomaz Pipan, 2013.*

## HISTORICAL REFERENCES

As exemplified by Tangwei village, Daoism and feng shui contribute extensively to the distinctive appearance of rural settlements in China where the location and visual quality of a village is placed in adherence to the natural order. Hammond describes a typical Guangdong province village from Taishan County as "*nestled within an azure dragon/white configuration*" (Hammond in Knapp ed. 1992: 98) and then explains in technical terms the placement in order to show how the "placing canon" defined the final site of the village. Feng shui captures in a more geomantic way good practice in the placing and organization of the village – including references to orientation, sun exposure, etc. In addition to feng shui, "communal ethics" are still an important aspect of local self-governance. They decree a predominantly uniform appearance of all the village buildings (Knapp in Knapp ed. 1992: 9); with most prominence accorded to the "*public-use areas, including, perhaps, a threshing floor, a well, a banyan tree, and a village altar or shrine.*" (Hammond in Knapp ed. 1992: 99)

The above text accords with the layout of Tangwei village, and particularly with the diagram and description of the central village fragment above (Figure 6-12). The reason for that can be attributed to the embedded local communal order, where civic participation and freedom for engagement with the dealings of the community are truly communal and built into the physical architecture, orientation and placement of the whole village.

### 6.1.3. Conclusion: Traditional Order

In addition to concrete engagement with nature, the traditional order provides a common ground for civic reconciliation of conflict within the village. The norms and rites create a topography geared towards freedom for participation and provide ways of dealing with conflicts that arise from conduct of everyday life. The traditional order creates a literal and cultural "civic" space in a village, a fundamental quality of the city. In contemporary conditions of the techno-capitalist order, this quality has been largely skewed by the economic imperatives of global capitalism only to be substituted by, amongst other things, a much more superficial "right to wellbeing" enshrined legally, but not embedded in the very fabric of urban life. As explored in the following chapters, technology tends to empower mainly capital and is not employed in the same way as tradition in the traditional order, to enable the civic commitment of the populace to a particular place.

## 6.2. Techno-Capitalist Order

Our modern condition is fundamentally different from the traditional order outlined above, particularly in relation to questions regarding nature and culture. The following chapter shows that one of the main features of the techno-capitalist order is a condition of nature that is understood through abstraction and mathematization. It is also understood through approaches based in 17<sup>th</sup> century physics and the natural sciences of the Western cultural tradition, (the scientific "method"), a principle underpinning much of modern society.

Just as "traditional" nature has institutions and practices to establish order (eg. village structure, from the entrance to the levels of the square) so does "modern" nature. This mode of nature is perpetuated with the help of technology. In architecture and urban studies it is rendered most explicitly in infrastructure and planning tools such as aerial views, mappings and charts. Nature created and rendered in this way is subject to a mode of thinking and enquiry that seeks to continuously shape and control it for its own purposes.

Next, we use a specific case study and concrete examples in order to understand the intense economic and political condition situated in the specific history of post-SER China. The official name for Chinese economic system is "Socialism with Chinese Characteristics". The Chinese party officials argue that the market economy we are witnessing in China today is still in line with Marxist ideas and is a transitional stage on the way to pure socialism so private ownership is temporary and considered non-socialist. However the current strategy is in favour of a gradual transfer to socialism going through the "necessary" stages, as opposed to Mao's approach , to jump to a complete socialism from an almost feudal society<sup>15</sup>. Thus, this chapter does not describe modernity as such; rather describes what we call a techno-capitalist order. This is a particular incarnation of modernity as an urban condition, and a peculiar consequence of the predominantly scientific approach to nature where technology plays a central role as an ordering and formatting mechanism in order to capitalize resources.

This chapter will illuminate how techno-capitalist order pertains to questions regarding the institutionalization of conflict and ethical interpretation of nature. The chapter is structured into two parts.

The first part puts forward definition of "scientific nature" through an example. It identifies the role of natural sciences, technology and abstraction in the ordering and formatting of reality. Part two

<sup>15</sup> Summarized after Wikipedia, accessed on April 2013.

describes the techno-capitalist order as a particular incarnation of scientific nature, through the economy as an advocate and industry and infrastructure as the means. This part will show how space is fractured into the economic space of decision-making and the infrastructural space of the disenfranchised worker and how "freedom for" and "commitment to" is lost.

The aim of this chapter is to understand the scientific and technological structuring of the world. It is also to explain the Shipai urban condition and appropriate techniques for handling this condition, as a direct consequence of such structuring. In other words, to describe rural industrialization and the mechanisms through which this urbanisation is perpetuated. This is the basis for chapter 8 which rethinks this structuring in order to speculate on a new civic order where industry (as technology) offers an ethical reinterpretation of nature.

### 6.2.1. Scientific Nature of Abstraction

As a place-holder for the idea of scientific abstract nature we introduce the "instrument" of a planning exhibition hall and what is called a "digital sandbox" – a physical model overlaid with visual effects showing a vision of development area (Figure 6-17). Planning models and digital sand boxes are the weapon of choice when it comes to representing visions of developments throughout China. They range in size and sophistication but all have in common intense visual and auditory immersion into artificially produced images and elaborate planning models. Cities compete with each other over which has the biggest and the most immersive representation of their vision. Municipalities try to dazzle the investors, and developers try to persuade clients to buy into their dream for profit.

The Eco-Industrial Park in Shipai boasts just such a presentation hall. The model of the Eco-Industrial Park shows a vision for development of the area and is the culmination of an official tour (Figure 6-18) given by the planners of the Eco-Industrial Park. It is targeted at party officials (since the park is partly sponsored by the prefecture government) and at foreign investors willing to invest in industrial ventures. The presentation hall is also a great instrument to dazzle the local population and villagers, so they too will buy into the dream. Along the way guests are shown the most current developments, how the environment is being taken care of, (water samples are shown that become progressively cleaner) and how investment into this park is a commitment *"to build a new society of green harmony and happiness."* (Dongguan Eco-Industrial Park presentation booklet, Chinese version: 13)

The digital sandbox is a physical model (Figure 6-19) which interactively shows the design of the Eco-Industrial Park with an animated overlay simultaneously referring to a wall projection showing realistic renderings of future developments, a masterplan and the programming of individual areas. The presentation is roughly 10 minutes long. In a sequence of a few seconds, it sweeps from masterplanning to urban design, architectural design and visions of personal experiences (Figure 6-20) showing various artificially generated representations and locating them on the map by illuminating different areas. In so doing, the last image connects the master plan to individual, personal experiences.

Figure 6-18. Exhibition hall and digital sandbox, Eco-Industrial Park Shipai Town, Dongguan, Guangdong, China © Author Unknown, accessed at [www.dgyouth.gd.cn](http://www.dgyouth.gd.cn) in March 2013.

*Figure 6-20. Digital sandbox in action with projections onto the model and animations on the screen behind. Eco-Industrial Park Shipai Town, Dongguan, Guangdong, China © Tomaz Pipan, 2012.*

The digital sandbox demonstrates the power of the "perspectival framework" as a formatting device. It allows an artificial correlation through a representational sequence between completely separate epistemological worlds (the masterplan and the personal experience). It links them through representation and hence associates meaning between completely different types of understanding. Referring back to chapter 6.2 and the Qingming scroll, where value is ascribed to engagements between people and the material culture of experience, the interactive model substitutes this ontology with mathematical measures that are correlated to human experience by way of geometry, drawings and the use of perspective. In so doing it establishes a self-referential order within the geometric framework, which is made believable through the technically flawless execution. The technological production is layered – from an instrumental bureaucracy to the production of the imagery; production of the actual landscape and buildings to an engineered "lifestyle" – and becomes both a substitute for reality and a powerful means for capitalization and pursuit of economic imperatives.

The digital sandbox is a theatre of persuasion for all concerned – in presenting the Eco-Industrial Park as something bearing the message of "green" capitalism; it is more real than the actual construction. It also connects the future with a procedure for achieving it. The procedure of making the performance is similar to the making of the park, or a town. The techniques for producing the imagery are like those of the eventual construction – a sequence of concept, technique and result. It is not a vehicle for discussion or for speculation of alternatives – it takes place in a dark box, with its own atmosphere of anticipation and power, sharing the attributes of the isolation of a laboratory with the hallucinatory persuasion of a movie theatre, and bearing elements of religious experience in its command over future redemption. It could all be produced on a high-end laptop, except for the actual cutting of the physical model, and this productive efficiency of belief represents a small analogue of the Chinese governmental style, complete with an assured happy (not to mention hallucinatory) outcome.

The digital sandbox is at once as sophisticated as such techniques can be and as primitive as perspective. The possibility that the engineered landscape for the Eco-Industrial Park might testify to a hidden agenda – that of land capitalization masked as ecology – is not addressed. Indeed, the priority given to the techniques of land-exploitation such as ecological refurbishment of River Rouge complex by Ford allows it to conform to conception of landscape urbanism (Corner ed. 1999, Waldheim 2002, 2006), to which "imagination" is a supplement to the engineering<sup>16</sup>. In contrast, the Qingming scroll is a vehicle of contemplation, of understanding of the spectrum of themes from primordial nature, to urban personalities, to brush styles.

<sup>16</sup> An in depth research into the reciprocities between technology, nature, ecology and contemporary theories like Landscape Urbanism is carried out in chapter 7.3.2.

### THE SCIENTIFIC CONCEPTION OF NATURE

The example described shows how in the digital sandbox, technology has been used to create a self-referential world. Let us now look at the importance of technology and ways in which this abstract conception of nature is created and identify other important technologies which sustain this order and are instrumental in the proliferation of urbanisation in Shipai.

The basis for scientific nature is modern natural sciences, used as the main framework for judgment. Since the Enlightenment, the natural sciences have developed a way of enquiring about the world that rests upon imperatives of physical measurement and mathematization which have become the de facto rule of certainty. If we evoke Latour again, we can say that the contest between matters of fact and matters of value can also be expressed as a contest between certainty and truth. If "truth" is a matter of the ethical orientation of the culture as a whole, the ambiguous use of "scientific truth" arises from the techniques of certainty *"inside the laboratory, behind closed doors, before the researchers intervene as experts in the public debate by reading in one voice the unanimous text of a resolution on the state of the art."* (Latour 2004: 63-64)

Therefore our first order of business is to understand this ordering of "scientific truths", to look into how nature is treated and understood within the framework of the natural sciences. For this, we will be referring to the connection between nature, technology and science as defined by Heidegger in his 1977 essay "The Question Concerning Technology".

Within the modern sciences, nature has to be understood in a very particular way, and the part of nature we can access through this approach is the part that can be turned into quantifiable values.

What this passage from Heidegger reveals is the following: firstly, nature is "formatted" in this way in order to be instrumentalized, used for a particular purpose. And secondly, the formatting that natural sciences perform is done for its own purpose; so as to create a discourse within itself – within the doctrine of scientific reason. By constant referral to itself, the scientific discourse creates a world where ordering is measured with devices created by this ordering. *"Instrumental thinking tends to impose its hegemony by creating a world it can control."* (Vesely 2004: 284)

Heidegger calls this formatting "Ge-stell" or "enframing" which is brought about by the essence of technology – by that what technology "does" to the world and to our experience of it, rooted in Cartesian metaphysics and our contemporary tendency to turn reality into concepts which can be managed. In understanding nature in this way, it becomes an operable commodity that is mainly used to benefit capital. The main character of this kind of nature is its preparedness and readiness to be used; this Heidegger calls "standing-reserve", a way in which nature is configured in order to be (ab)used again and again for any purpose needed within the realm of the natural sciences.

Technology enables and perpetuates this understanding of the world and guarantees its continuation. Technology is the organizational institution that shapes our reality as such, not only because of its usage and instrumentality but also because it shapes our comprehension of what nature is. Through this, a necessary abstraction happens, as this erases from the field of engagement everything that cannot be quantified, classified, measured and then empirically analysed. In return, it offers a method of scientific judgment by which we are able to choose right from wrong, good from bad and therefore bring relative certainty to our decisions.

In this sense we can say that what we are dealing with is a particular image of nature; a representation of nature artificially created by natural science for its own purpose. This man-made abstracted and artificially constructed understanding of nature we will call "scientific nature"<sup>17</sup>.

At this point it is worth mentioning that the purpose here is not to develop a new way of reading and understanding reality. Scientific nature is an essential way that contemporary society reasons and operates. To think about an alternative structuring would be futile. Rather, the purpose is to understand the urban industrial topography under examination, which not only has its own characteristics, but is inscribed in the sort of transformational drama we witnessed in the digital sandbox, where it is possible to imagine moral and political ends achieved by techno-bureaucratic means. The task at hand therefore is to understand this formatting in order to be able to work within it and offer a possible reinterpretation within the domain of urban order and architecture.

<sup>17</sup> To the scientist, of course, the Daoist version of nature is "artificial, culturally constructed" and therefore "wrong". This is where Descola's use of "Naturalism" (Western science) against "Analogism" (Daoism) is useful – it offers a stance that sees the approaches to nature as culturally-specific.

### **SUPPORTING CAPITALISM WITH SCIENTIFIC NATURE**

The standing-reserve lends itself beautifully to the aspirations of a modern capitalist economy where "just-in-time" production for contemporary consumer society is a concrete precondition for the embodiment of Heidegger's concept. Scientific nature as employed by the techno-capitalist order is a domain of resource-capitalisation according to criteria of efficiency, economic profits and losses, and maximization of production through serialization and optimisation.

Using this understanding of scientific nature and its particular incarnation through the techno-capitalist order, the Eco-Industrial Park model can be read as a vision of economic development and resource utilization. Instead of representing ontological values between elements (as the Qingming scroll does), it represents a logic of economy and utility (the nature of efficiency, economic figures and the maximization of production) and binds that to representations of nature and personal experience. The main measures for judgment are the amount of square metres of certain programs, their economic value and returns. Through physicality and visual immersion, virtual ideas become reality, liberated from the constraints of the actual site that lies just behind the walls of the exhibition hall. The representation of the idea in its technical sophistication through renderings, animations and the fully interactive model oscillates between wholesale illusion and actuality on one side and success and the legitimizing of the development on the other. In this self-referential construct the physical qualities of measurement are used to substitute concrete engagement – the basis for reason and measure in traditional order.

Let us now explore the technologies behind the argument for legitimacy by way of scientific reason and what questions are raised in reference to the main topics under examination: urban order and the ethical interpretation of nature. Similar to the exploration of the power of representational models, we shall explore infrastructure which acts as a formatting device that renders the whole territory into a standing-reserve (nature readied for use), making it compliant to scientific nature and ready to be consumed.

#### **6.2.2. Economy and Infrastructure**

As already established, scientific nature as employed by the techno-capitalist order is the domain of resource-capitalisation according to criteria of efficiency, economic profits or losses and maximization of production through serialization and optimisation. This rests upon hierarchical planning from afar through deputies, and instruments such as policies, aerial plans and drawings, zoning and infrastructure. Major decisions are made by the central government in Beijing, such as the PRD Reform and Development plan (2008-2020). This strategic document by the National

Development and Reform Commission must be implemented by the provincial governments of Guangdong and sets the tasks and goals of individual prefectures like Dongguan. At the level below, the Dongguan planning office produces a strategic masterplan. Local township and village governments then develop their areas, but need permission from the prefecture government for development, and have to follow the general strategic masterplan<sup>18</sup>.

Within this management pyramid, nature becomes an abstract idea that can be manipulated and represented in different ways as flow charts, production targets and quotas. This detachment from nature as a part of everyday life is the fundamental characteristic not only in the raw instrumentality of the planning system, but also in the social embodiment of the planning hierarchy. For example, filthy water from the industries is seen neither by the planners in Beijing, who merely define a policy that the water has to be clean, nor by the planners in the prefecture planning bureau, not even by the local township officials who sip iced tea in fully air-conditioned villas with well-connected developers.

The planning hierarchy and conduct produces a very efficient and economic spatial organization (Figure 6-21) where prefecture level government sets up the main infrastructure and local governments develop adjacent plots in partnership with developers and foreign investment. The efficiency is visually palpable with many kilometres of transport infrastructure – a high speed road network – lined with industrial compounds intermittently populated by housing and rudimentary services. This reproduction of efficiency creates the regional corridors<sup>19</sup>, a network for production and transportation of goods accommodating global economic flows of capital.

.....  
<sup>18</sup> For the "legal" practices and political and economic organization of Dongguan, please refer to chapter 5.1.

<sup>19</sup> For definition and description of regional corridor, please refer to chapter 5.2.

*Figure 6-21. Adjacent organization of industrial compounds along the regional infrastructure, creating regional corridors.*  
© Tomaz Pipan, redrawn from Google 2007 orthophoto.

The techno-capitalist order in China, it could be argued, "*takes account only of that which is susceptible to mathematical understanding*" (Vesely 2004:241) and uses it to manage and administer the economy – its flows and efficiencies. In other words, the way the techno-capitalist order constitutes reality is based on an abstraction where life becomes a calculable chain of causations between initial and final conditions. This is the basis for judgment, for interpretation, for defining what is good and what is not, and this is what defines the "culture" of a regional corridor. Within this estranged world, the operative verb is "to manage". Nature is configured "to be managed" as a commodity. This is done on two levels: on a conceptual level through planning and economy, and on a physical level in space through infrastructure. The pursuit of economy moulds society into a cycle of consumption and production while infrastructure formats the landscape for utility – a monothematic mesh of production and transport whose chief qualification as a "city" is the contiguity of the parts and the centrality of the ancient urban centre of Guangzhou to the region. These two mechanisms work simultaneously, and split the space into the economic places of management and infrastructural space of "non-commitment" (the infrastructure makes the land available for use as standing-reserve, but does not designate a committed purpose, rather it is generally available for exploitation by capital forces). Respective to these two "conceptual spaces", we will now look at typicalities in these two settings; on one side places reserved for the managerial class and on the other the objects of their management – the production compounds that line the regional corridors.

**ECONOMIC SPACE OF MANAGEMENT**

A typical high-end development of regional corridors are villa compounds. In Figure 6-25 we see a fragment of such a compound bordering on a small industrial cluster. The villa compound called Fairview South (Jinxiu Jiangnan, 锦绣江南) is advertised as a high end development for affluent families. Emphasis is given to the landscape design, amount of greenery, water, private gardens and an FSI of only 0.6, impressive for Chinese standards.

*Figure 6-22. Location of detailed typicalities. © Tomaz Pipan, redrawn from Google 2007 orthophoto.*

Figure 6-24. LEFT: industrial compound bordering on the villa compound. RIGHT: villa compound seen from behind the east wall. © Tomaz Pipan, 2012.

The description draws parallels with "Roman" (Western) and traditional Chinese building styles. The affluent status of the neighbourhood is further advertised by stating: "...a recognised scholar lives in this waterfront mansion"<sup>20</sup>.

In Figure 6-25 the villa compound is clearly separated from the rest of the world with a buffer zone of trees and a three metre high wall that encircles the estate. At the south gate, there is a private security force that controls and maintains order within the whole area (Figure 6-23).

Two storey villas with private gardens is a typology with a clear reference to the suburban life style prevalent in the United States. The villas are lined up adjacent to the internal roads with a private garden behind or in front of each. The communal area is lush with vegetation, meticulously taken care by estate gardeners, but for all intents and purposes, it is empty and devoid of life. This represents a radically different attitude towards a communal order than we witnessed in the Qingming scroll or in the order of the village, where communal practices are intricately connected to the life in front of the houses and in them. What these villas represent is a private space of the nuclear family where all the facets of daily life happen within the confines of the villa and private garden, abolishing the social component of the community. This is apparent from the completely deserted communal gardens that serve only as a vessel for the image of "tamed nature" in the form of lush vegetation.

Comparing this typology with the civic space of the Tangwei village in chapter 6.1, we can see that there is a fundamental difference in the way that public and private domains of life are understood and used. The civic and public place of the village is substituted for the private space of the nuclear family disconnected from neighbours by fences and hedges, and further disconnected from the rest of the world by a 3 metre wall. The internal nature that is created is completely hermetic, creating a detached artificial island of an imaginary perfect world. The two levels of separation (from neighbours and from the rest of the world) bring about a high level of detachment from concrete conditions such as noise and life of the villages, industries, migrant workers, etc. This pattern is governed purely by the domain of the household and its internal private rules. The comparison lends itself well to the concept of ancient Greek *oikos* meaning household, from where the concept of contemporary economy derived.

<sup>20</sup> The description and quoted passage taken from <http://jingxiujiangnan.soufun.com/> accessed on April 2013.

*Figure 6-25. Wall separates villa compound from adjacent industrial compounds. © Kristin Krause, tutored and additionally reworked by Tomaz Pipan.*

The ancient Greek *oikos* should be read as an intrinsic part of the topography of the polis. It is true the house was the domain of its male owner; but it was connected to the public life through business deals, symposia, etc. Several of Plato's dialogues take place in houses. A succinct definition would be one of Arendt in *"The Human Condition"* (1985) which is a more subtle argument against the notion of "society". Arendt criticises the loss of traditional public life – a proper politics where individuals were equal – and the collapse of political concerns to the hierarchical "limited access" affair that we find in the house. The household space of *oikos* and its mode of decision-making lends its name and mechanisms of management to the contemporary concepts of economy. This portrays economy as a domain of hierarchy and elites; however if elites in ancient Greece had also the arena of the polis – an arena of equals – in contemporary China, this arena is almost non-existent, and decision making is entirely secluded and detached from the everyday dealings and goings of the topography. And even within this secluded economic arena, the politics are hierarchical. Nowhere is this more apparent than in the fractured space of the regional corridor. In Dongguan the power and decision-making structure is based on "guanxi" - local connections in order to *"cultivate connections with government officials, who hold the power in various bureaux"* (Yeung 2001: 14) and play an important role in making business deals, creating new enterprises or securing development land<sup>21</sup>.

Within this environment, contemporary "guanxi" play vital role; developers and local officials work hand in hand within the grey zone of the politics and economy to monopolize, develop and speculate on the real-estate market. This removes the political and civic from the public domain and transfers it into domain of the regional officials, local village leaders and well-connected investors / managers that live in the walled luxurious villa compounds, making deals in restaurants (Figure 6-26) and "gentlemen's clubs".

This passage shows just how intimate and private the world of developers and decision making in Dongguan is. In this sense it is much closer to the private space of the household and its decision-making environment than to the transparent running of a business enterprise.

<sup>21</sup> Please refer to chapter 5.1. for bibliography and references regarding traditional and contemporary usages of guanxi.

Figure 6-26. LEFT: A meeting of developers in progress in one of the single family houses © Smith in Koolhaas 2001. RIGHT: One of the villas in the Fairview South compound where such deliberations might have happened © Tomaz Pipan, 2012.

The economic space of investors and developers is a private space where decision-making takes place. It is a space freed from the ethical values of a community and the needs of the city, a space subject only to private wishes and agendas. The spatial separation between an industrial compound and a walled villa estate in Figure 6-25 shows just how radical and unconcerned the life within the compound is with its immediate surroundings. The thin line of a wall with a buffer of trees exemplifies its indifference to the world just beyond, indicating just how internalized and disconnected the walled villa compound really is. It is a private space of fortunate ones – homes of developers and local party officials, weekend houses for the investors from Taiwan and Hong Kong. Personal agendas are hidden behind the capitalist imperatives for progress, bringing in the money and development made plausible through representational models and computer renders and the abstraction of pie charts and graphs.

Traditional villages used walls as demarcation of dwellings, to position the place for dwelling within the agricultural land. "*Villages of many sizes have always appeared planted like islands among the fields, with taupe tamped earth walls clearly demarcating settlement from the surrounding fields.*" (Knapp in Knapp ed. 1992: 1). In contrast, the villa compound wall separates the place of private decision-making from the infrastructural space of management where these decisions are dispensed. Commitment to the community and freedom to engage with what is behind the wall is completely erased by the physical separation and layers of abstract management hierarchy that disconnects these decision-makers from the reality. The disconnection from reality also unbinds these managers and officials from their ethical liability and responsibility to the managed space as such. Concrete engagement is replaced by management and articulation transforming actual real-world responsibilities to fellow human beings to the political and economic sphere. These responsibilities are indebted to scientific nature and therefore suffer from the same obscuring and distortion as any other concept defined through it.

Reality on the other side of the wall is an infrastructural space ordered by imperatives of efficiency for the sole purpose of maximization of profit through flows of goods and resources.

**INFRASTRUCTURAL SPACE OF NON-COMMITMENT**

Calculated, tabulated and graphed, scientific nature enables the liberal capitalist world of the economy. Fuelled by infrastructure, it reproduces a contemporary world of urbanisation, a "*condition of limitlessness and the complete integration of movement and communication brought about by capitalism*" (Aureli 2011: 9). Infrastructure becomes the ordering mechanism through which everything becomes a standing-reserve to be used and consumed when needed.

This idea is rendered beautifully in our next example. The industrial compound (Figure 6-27) is directly connected to the main transport infrastructure. The compound is efficiently organized around the main yard where trucks bring in material and take out the finished goods. This adjacency can continue into infinity due to the non-hierarchical ordering capacity of infrastructure creating the regional corridors<sup>22</sup>. We could say that infrastructure formats the land into industrial urbanisation – a meshwork of factories.

This curious infrastructure is a place of anonymous, disenfranchised workers; a fragmented space inhabited by rural-to-urban migrants who traded their traditional culture for wages. The predominant typologies are industry, dormitories and primary services, together forming clusters of social life<sup>23</sup> infused with the capitalist working ethic. Figure 6-27 shows a typical situation, where a cluster is created around a smaller industrial compound together with additional housing sheds, a bicycle repair shop, canteen and a grocery store (Figure 6-28). These services form a centre of localized social activity and life. Workers from nearby dorms come here to eat, fraternise and shoot pool during their "free time" on a typical day.

Observing this infrastructural space we can see that all the customary architectural typicalities characteristic of the village are missing and cannot structure the individual's experience and conduct. Moments like turning a corner at the entrance, the altar, a square with ancestral halls and a communal building, a pond, a banyan tree – all is erased. Instead of traditional structures, transport infrastructure, alleys, canteens, grocery stores and make-shift restaurants take over the function of village squares and communal rooms and become a depository of surviving fragments of traditional practices, like communal life (Figure 6-29 and Figure 6-30).

.....  
<sup>22</sup> The definition of regional corridor is explained in chapter 5.2.

<sup>23</sup> Here a continuation of Arendt's argument about "society" and "public space" is in order. Refer to chapter 7 where these questions are dealt with in more depth.

*Figure 6-27. Birds-eye perspective view of the industrial cluster. © Kristin Krause, tutored and additionally reworked by Tomaz Pipan.*

*Figure 6-29. Street as the living room of communal life for the local population. Examples from around various towns of Dongguan. © Tomaz Pipan, 2008, 2012 and 2013.*

Migrant workers use the streets, alleys, pavements as their living rooms; almost as if the living room, kitchen and utility room are turned inside out and expunged onto the pavements and into the domain of the public (Figure 6-30). Here the people meet, clothes are dried, and food is eaten. Migrant workers still have the deeply communal way of life, depicted in the Qingming scroll. Even though the new infrastructure was clearly not built for these practices, it at least accommodates them as life demands it.<sup>24</sup>

The transport infrastructure provides places to socialize. However, it ceases to support the political and the civic aspects of life, the most important characteristics of the village. Migrant workers who are the majority "citizens" of this infrastructural urbanity are without decision-making powers as they do not have a local hukou. This makes for a strange kind of citizenship. Their rights, privileges and obligations pertain to the world of economy and scientific nature, measured and consequently delegated by the factory owners and managers. These rights mainly involve references to working hours, production quotas and free time allowance, making workers part of the "standing-reserve". Their civic commitment and freedom has to be exercised elsewhere or in a different fashion. Either as a commitment to their family, by sending back the money and helping educate younger siblings, upgrade or build a new house. Or more frequently, spending *"money freely on themselves – on clothes, hairstyles, and mobile phones"* (Chang 2010:106), embracing the newfound emancipation from civic obligation and the precarious way of life offered; becoming part of the global consumer society.



These are the two alternatives in terms of commitment that "infrastructural space" permits. This is chiefly due to lack of symbols or typical elements that would solicit civic commitment or structure and maintain the organization and obligation to the community; something that is strongly rooted in a traditional civic society. The "enframing" of the infrastructure in conjunction with the doctrine of the *oikos* has the potential to (only) represent the anonymous whole. As life demands a certain level of commitment, resurgence of freedom for civic obligation within these topographies will be explored in chapter 6.3.

<sup>24</sup> For references to history and tradition please refer to chapter 6.1. The significance of these practices within the regional corridor is described in chapter 6.3. The nuances of "public space" and question of "society" is further dealt with in chapter 7.

Figure 6-30. LEFT: Airing of the blankets on a make-shift hanger in front of the worker dormitory in Shipai. RIGHT: Drying clothes on balconies of worker dormitory and fraternizing on the pavement in front of a local canteen in the shade. © Tomaz Pipan, 2012.

### 6.2.3. Conclusion: Techno-Capitalist Order

The horizontal systemic ordering within which workers are liberated (prohibited) from freedom for civic commitment and offered (forced upon) freedom from any kind of obligation to the immediate surroundings is a precondition for efficient functioning of the techno-capitalist order.

This formatting of non-commitment and disempowering of the individual is a precondition for the Dongguan SER techno-capitalist order to exist. Furthermore, it is a formatting that creates alienation from personal involvement. In terms of the workers, the infrastructure alienates them from their history and ways of life. The infrastructure as a mechanism erases all references to history and creates a symbolically emptied space of abstraction ready to be inhabited by vague hopes and dreams articulated through consumer society and the pursuit of individual physical well-being. In a similar fashion the hierarchy of decision-making estranges the developers and managers from the actual substance; surrendering concrete engagement for a conceptual promise of a global lifestyle. In the walled villa compounds too all references to communal life are erased and substituted by the typology of single houses geared towards nuclear family life. Both instances show how detached from actual engagements the world of techno-capitalist order really is.

The deeper problem of this disconnection lies within the planning and management of efficiencies that is brought about by the mappings and aerial views seen in the digital sandbox. Technologies promised to work with the reinterpretation of nature and bring it back into the realm of human experience but this has turned out to be largely an empty promise. Although the approach offers thinking "within nature", the nature it thinks through is the one that can be measured, photographed and represented with geometry. This is the geomorphology of a certain area, the natural cycles and processes converted into numbers and figures; as a measuring mechanism of science dependent on capital. An in-depth analysis and investigation of this problem follows in chapter 7.3.

Whilst we have been concentrating upon a particular example of techno-capitalism, the examples give little hope for a supposedly more open, creative urban order in general. However after describing the traditional and techno-capitalist orders, it seems that these problems might possibly be addressed by a

negotiation between the two orders as is the case in Shipai. This composite condition that sits between the traditional and techno-capitalist attitudes gives us a starting point to think about a possible new civic order where freedom for commitment can be more equally balanced with the pressures of the global economy.

### 6.3. Composite Order

The speed of rural urbanisation in China has brought the two orders described into direct confrontation, demanding a sort of reconciliation or co-existence. The traditional values embedded in the local culture are enmeshed with the commercial and economic pressures of global capitalism. The world of freedom for civic commitment comes face-to-face with the world freed from immediate responsibilities.

The following chapter will look at a few typicalities in which this reciprocity is rendered within the existing areas in Shipai. The aim of the chapter is to examine this composite order and to pose a question about the extent to which it gives an indication of a new civic order that negotiates the middle ground between the techno-capitalist order of global capital and traditional order of the local past. Is there a way to accommodate some of the requirements of both? Which traits can be accommodated and which are by definition mutually exclusive?

The chapter will start with two examples showing how the two orders are intertwined in the everyday life of a local village and how local decision-making is implemented. Then it will continue with two examples showing how the traditional order, by way of locally created informal markets and aspirations of migrant workers, finds its place within the everyday life of the regional corridor. These two conditions will be taken as a counterpoint to the all-pervasive techno-capitalist proliferation of infrastructure described in chapter 6.2. A series of questions will be posed: Can these examples be treated as ways to retain some sense of structure and order by way of hierarchy and knowledge embedded in tradition, local culture and centralities? Or is the nucleation of infrastructural field so pervasively dominated by industrial production merely an expectation, and cannot guarantee success? Does the relation between topography and ethos need another layer of understanding? If so, how can we formulate it? Can the described reading of informal and grassroots structures give a sense of civic engagement to the infrastructural field of urban territory which dominates Chinese urbanity (and indeed the global world in general)?

The reason for the existence of bottom-up and grassroots organizations can be attributed to historical motives and to the particularities of Chinese culture. There was always a negotiation between institutional and grassroots orders, attributed both to the size of China and to a naturally evolved set of ways of political and economic management. This negotiation is not something widely advertised, but even in communist times, with the exception of the Great Leap Forward and worker communes (and the complete failure of central management that led 30 million people starving to death) governmental power at the lowest levels in agricultural areas was always shared between informal and formal

authorities. Recently this has gained recognition in the form of the Organic Law of Village Committees<sup>25</sup>.

This sharing of power has great significance for this research. In terms of references to nature, references to concrete engagement and ultimately in terms of freedom for civic commitment and participation. As the techno-capitalist order relies on scientific nature, so the grassroots order draws from fragments of the traditional order, rooted in cycles of nature, ancestral worship and offerings to local gods. Locally elected officials in Village Committees are therefore necessarily claimed by both conditions.

The reason for looking into this negotiation is ultimately to develop a concrete understanding, enough to investigate one of the main topics of this thesis: In the contemporary world of the capitalist economy, freedom for civic engagement is disrupted by the mechanisms of economy, such as consumerism. It is substituted by freedom from any type of commitment in order to deny civic participation offering false liberties. This is largely possible due to a formatting of reality within the domain of scientific nature and with the help of technology<sup>26</sup>. The examples give us a starting point to consider how a concept of local self-governance can offer a way to rethink the civic order so freedom for civic commitment is retained more widely, and at the same time accommodates claims by industry (a species of technology).

### 6.3.1. Interstitial Topographies of Local Community

When prefecture level government started to develop main transport infrastructure, local townships and village governments started to build industrial compounds with the help of foreign direct investments. As these enterprises had to be communally owned, at least on paper, (communal TVEs), the Village Committees took control of the communal land and offered to local villagers yearly rents, dividends and sometimes also other benefits like social security, education, healthcare that they were entitled to due to communal ownership claims. Therefore the industrialization of rural land is an intrinsically local affair and varies significantly from village to village. It also largely depends on the entrepreneurship and managerial skills of the Village Committee, their connections with prefecture level officials, and access to foreign direct investments, mainly through expatriates living in Hong Kong or overseas. The practices range widely from very egalitarian like in Nanji village<sup>27</sup> described by Darning and Yingiang where *"committee cadre themselves are frugal and have no luxury cars or offices"* (in Guldin ed. 1997: 75) to more austere conditions where Village Committees are corrupt

<sup>25</sup> Please refer to chapter 6.3.2 for a historical precedent and the development of the Organic Law of Village Committees.

<sup>26</sup> For an in-depth overview of the consequences of consumerism and how it came about, please refer to chapters 7.2 and 7.1 respectively.

<sup>27</sup> Nanji village belongs to Nangang Township in the Huangpu District of Guangzhou.

and are only interested in their own benefit, giving a bare minimum to the villagers. In fact, all the examples in Guldin (1997) are mainly positive and promising; however we have to be cautious not to sugar-coat the actual conditions. Lin (2009) talks about more disturbing conditions attributed to the ambiguous meaning and possible multiple interpretations of property rights. The following passage is unfortunately also more in line with the findings of this study.

However, in both cases, villagers are deprived of a significant portion of their income from agriculture; and as compensation, agricultural land immediately next to the village is usually deregulated by the Village Committee and individual plots sold back into the private ownership of individual families. Villagers build their new houses in these plots, depending on their economic standing and capabilities, and start to rent out the houses in the old villages to migrants.

*Figure 6-31. Weaving of Local Topography and the Regional Corridor. © Tomaz Pipan, composite drawing redrawn from Google 2007 orthophoto and 1949 historical map from Great Britain War Office.*

If we project this understanding onto the case study area of Shipai, we can observe a new topography of the area emerging (Figure 6-31). Regional corridors, formed along new transport infrastructure (Figure 6-31, light grey) are managed by Village Committees by sharing the power between party officials and village representatives. Amidst this graft, we can observe a more loosely connected sequence (Figure 6-31, black) – a local topography that has spread from historical villages built before the SER times (Figure 6-31, red fill). The expansion of villages through shaking-hands villages emerged as a loose sequence bound together by the original villages in conjunction with ancient roads and ponds as historical "place makers"<sup>28</sup> (Figure 6-31, grey fill with red outline). This local topography is also managed by Village Committees. In addition the committee funds also provide

<sup>28</sup> The traditional and historic significance of ponds and banyan trees is explained in chapter 6.1.2.

local amenities like new public spaces, beautification of ponds, sometimes schools and libraries (Figure 6-40). However the actual plots where shaking-hands villages stand are usually owned by villagers themselves and no longer communally by the village. The difference between the two organizations (regional and local) is quite apparent in the grain size and in the building typologies as well as in the character of everyday life, management practices, customs and uses<sup>29</sup>. What we are witnessing is a topography with mixed horizons of engagement, referring to traditional and techno-capitalist orders at the same time. The following in-depth explanation of this mixed topography will illuminate its involvement with the traditional and techno-capitalist orders.

### **TOPOGRAPHY OF LIJIAFANG VILLAGE**

The interstitial land between the old villages and the regional corridors is very rich, lending itself well to questions of civic participation and an inquiry into the possibility of a composite topographic order. (Figure 6-32 and Figure 6-33). Here grassroots Village Committees are trying to reconcile traditional values and their responsibilities to fellow villagers (chapter 6.1) with contemporary economic conditions, as a consequence of the emergence of the techno-capitalist order, (chapter 6.2). This is at the heart of its fragmentation; their modes of reference are being pulled between traditional and capitalist aspirations.

Our first case study is Lijiafang administrative village (pinyin: Lijiāfang, 李家坊). The following description explains the development of the area reconstructed from on-site anonymous unstructured interviews with local inhabitants. From 2012 to 2013, I conducted 21 interviews of which 7 were in the Lijiafang village itself.

Lijiafang village is one of the smaller administrative villages in Shipai as it consists of only one natural village (Figure 6-33, left). The reason this location was chosen is its clear separation between the three parts – regional corridor, historical village and deregulated negotiation territory in between the two (Figure 6-32). This separation is also apparent on the land use map where the majority of uses are M1 (1<sup>st</sup> class industrial land), E6 (rural construction land) and R2 (2<sup>nd</sup> class residential land) respectively (Figure 6-33, right).

.....  
<sup>29</sup> Refer to chapter 5.2 for more detail.

*Figure 6-32 Distinct parts of Lijiafang village: Regional Corridor and Local Topography with village and negotiation territory (that becomes part owned by locals and part developed into industrial land). The former represents an in-between condition that accommodates the villagers' aspirations, Village Committee's debt to the village and their commercial cunning. © Tomaz Pipan, 3D extrapolation based on Google 2007 orthophoto.*

Figure 6-33. Location and size of the Lijiafang administrative village. © Guangdong Provincial Institute of Urban and Rural Planning, accessed at [baidu.com](http://baidu.com) in February 2014.

Currently the population of the village is about 900. Before the 1970s village land was communally owned. In the late 1970s land reform changed communal ownership into a leasing system known as the household responsibility system, that redistributed the leases on the land back to individual households and assigned production quotas<sup>30</sup>. Lijiafang Village Committee chose to make this leasehold payable. The land was leased to the villagers at the price of 1500 RMB (£150) for 80 m<sup>2</sup>. After the initial redistribution, Dongguan ascended to SER and the local communities were allowed to change from agricultural to industrial production. With the help of foreign direct investment they were able to capitalize on larger areas. As the land was now fragmented and divided between individual families, the Village Committee started re-acquiring the land in order to create bigger areas for industrial development. In return, villagers were promised rents, refurbishment of public areas, amenities and new housing. From the general model of industrialisation described in chapter 5.1, we conclude that the prefecture government laid the main north-south road as part of the regional industrialisation effort. The subsequent roads parallel to this road and going into the village itself are in the domain of Village Committee. The area along the main road was zoned by the prefecture master plan as industrial and services which became the main source of revenue for the Village Committee.

Today, an individual villager with a local hukou receives 1000 RMB (£100) each month as a substitute for the land lease. However, a large proportion of this money goes into the communal pension fund. When villagers retire (females at 55 and males at 60), they receive an additional 500 RMB pension from the Village Committee. The interviewed villagers believe this monthly fee is far too low; it allows for only a basic standard of living. They believe the Village Committee retains too much money for themselves.

By 2005 the Village Committee had managed to reacquire all of the agricultural land for a "communal effort" of industrialisation. Because the village does not have any more actual farmland, all young people travel to nearby townships or Dongguan city proper to work. Only the elderly, women and children remain. In addition, it is a widespread occurrence that the elderly cannot get work in industry. As the monthly rents are very low, the older generation keeps on farming for the needs of their immediate family and for their own pleasure. The Village Committee allows food to be grown on land that has not yet been re-purposed for industrialization. Part of this left-over land is cultivated, but the rest would require too much investment to set it up as agricultural again (Figure 6-42). Since Village Committee could further the industrialisation plans at any time the villagers who still farm do not wish to invest in the leftover land as the risk is too great.

.....  
<sup>30</sup> Refer to chapter 5.1 for details on land reform.

As promised, in the 1980s the Village Committee launched a new building project to improve the housing conditions of the villagers. They set aside a part of the agricultural land west of the pond and re-organised it into individual plots (Figure 6-42, Shaking-hands village phase 1). In this project individual families were offered the chance to buy the new plots from the Village Committee within the predefined site. Individual families had to buy the plots from the Village Committee and build their own house. There was no subsidy or help with materials, work or funds available. A law was passed that only local villagers were allowed to live in the area due to "security reasons", and so the villagers were able only to rent out the old houses in the historical village, rather than the new houses. This brings into the household a few hundred RMB per month.

A typical shaking-hands village is densely built into agricultural land. It is comprised of approximately 10m by 13m plots (Figure 6-35), standing in tightly packed lines filled with houses that are two to four storeys high.

The more affluent villagers show a clear aspiration to demonstrate their status as is apparent from the corner house, which has a westernised villa-like appearance with lavish decoration, clearly standing out from the rest (Figure 6-36). Even though the owners have clear aspirations influenced by the western life style, they apparently did not want to move away from their locality, nor could they – as their political influence is predefined by their hukou – within their own village. Their connection to the village generally and the land in particular is accentuated by yet another feature – a hen house attached directly to the villa (Figure 6-37). The stark contrast between the villa and the hen house alludes to a peculiar type of order and to horizons of engagement that are dispersed across the spectrum, ranging from techno-capitalist (aspirations to global lifestyle, a western looking villa) to traditional (a wish to own a hen house and be close to the agricultural land).

*Figure 6-34. Within the shaking hands village. LEFT: Entrance to a house. MIDDLE: Cross ventilation alley. RIGHT: Main street. © Tomaz Pipan, 2012*

*Figure 6-35. Shaking-hands village house in the first phase in Lijiafang village. © Anna Regner, tutored and additionally reworked by Tomaz Pipan.*

Figure 6-36. Lijafang shaking-hands village phase one and the corner "villa" © Baidu 2012 and Tomaz Pipan 2012.

Figure 6-37. The "villa" corner house on the edge of the Lijafang shaking-hands village phase one overlooks the gardens. © Rawan Massood, tutored and additionally reworked by Tomaz Pipan.

In the late 1990s the process of village expansion was repeated for the remaining families that did not get a plot in the first instance, usually due to funding problems (Figure 6-42, Shaking-hands village phase 2). In addition, a family which had grown in the last decade (marriage, children, etc.) was entitled to purchase an additional plot. The second shaking-hands village was set up south of the pond. In this new development the plots are bigger and have a better location, across from the pond. The more prominent houses of influential villagers overlook the pond (Figure 6-38). The social status and quality of the houses decrease with the distance from the pond. This is apparent from the overall outlook and detail of the houses. The front houses feature prominent tiling, ornamental balustrades and lush windows, the medium row houses typically have the tiling on the front facade, and rows further back increasingly feature houses without tiling at all (Figure 6-39). The same goes for the number of floors.

*Figure 6-38 Front row houses in the new shaking-hands village phase two. The area of more influential villagers close to the Village Committee. © Tomaz Pipan, 2013.*

*Figure 6-39. Different development stages of shaking-hands houses depending on the wealth of individual villagers. © Tomaz Pipan, 2013.*

An example of a family in one of the back rows is telling. It counted 5 people in an extended family: a grandmother, a man and a wife, his sister and an infant. They were all living in a ground floor building as they did not have money to build another floor, let alone for tiling. The husband adds that there is no height limit for houses: *"You can build what you can afford, but no one wants to walk many floors"*. Another problem is that they are not allowed to rent out upper floors to migrant workers so there is no incentive or funds to build higher. He would like very much to build another level, if he had the money: *"That would also help to keep the ground floor cooler as it gets very hot in summer."* He also explained that some villagers just buy the plot but do not have any money to build even a ground floor so some plots are left vacant.

This shows just how varied the social standing within a village of 900 inhabitants really is. Within one shaking-hands area that measures 50 by 50 metres, the economic and social standing of individuals can range from incredibly wealthy and affluent, with good connections in the Village Committee to families that have no connection and very poor economic fortunes. This also shows the rich internal ordering defined by North et al. as the "natural state", that *"reduces the problem of endemic violence through the formation of a dominant coalition whose members possess special privileges"* (North et al. 2009: 18)

The "dominant coalition" is centred on families that have access to the Village Committee through membership. However, due to historical claims to the land as a community, the rest of the villagers also need to be taken into account and act as a kind of "dispersed elite". To keep the majority of villagers on the borderline of contentment, they receive rents and beautification of the village as well as new public amenities are provided by the Village Committee. In terms of amenities and subsidies for healthcare, the villagers explained the following. There are a few kindergartens in the village however, all are private. Villagers do not get a subsidy for their children to go to kindergarten; the same is true for the school. However, there is a medical clinic inside the Village Committee office – built by Village Committee – and the villagers are eligible to discounted treatment and medicine. The Village Committee also invests in the refurbishment of roads, redevelopment of the public areas around the banyan tree and the pond (where the traditional entrance to the village was), they created a local park with a children's playground and a basketball court (Figure 6-40 and Figure 6-41). These amenity spaces are in between the old village and the new shaking-hands villages and are a kind of buffer zone and intermediate space between the two communities<sup>31</sup>. The Village Committee also built a village library that is nowadays mainly used for playing mah-jong and gambling.

.....  
<sup>31</sup> Please refer to chapter 6.1. for an example with New York Central Park.

Figure 6-40. Newly refurbished public spaces between the historical village and the new shaking-hands village. The pond with Banyan tree (left), the park with playing ground and lounging area (right). © Tomaz Pipan.

Figure 6-41. LEFT: Edge of the new park with children playground and benches. © Tomaz Pipan, 2013. MIDDLE: Location of the public space Figure 6-40. © Baidu 2012. RIGHT: Refurbishment of the traditional area - Banyan tree and the benches next to the main village pond. © Tomaz Pipan 2013.

This hints at an intricate ecology within the village that orbits on one hand around personal gains of individual families rooted in land capitalisation and techno-capitalist aspirations, and on the other hand responsibility to the community – a reference we can only attribute to the traditional order. The village elites are well aware that they need to retain some kind of social order, and villagers understand they do have at least some level of civic power that ensures them a moderate level of well-being and the refurbishment of their immediate surroundings.

This precarious political organization is further revealed within the hierarchy of the Village Committee. From our interviews it was apparent that the actual leader of the village is a party official who is assigned by a higher level party body, most probably the prefecture level party committee. He has four local deputies, each responsible for different fields like women's affairs, security, development of the village etc. (the interviewee was not more specific). These deputies are elected by villagers, must have local hukou and live in the village. The party leader decides (dictates) all matters of land sales and management in the village. As stated above, there are four "official" seats on the Village Committee, yet through personal connections and favours there are other people working for the Village Committee, mainly those affiliated through family members and family lineage. The villagers interviewed believe the Village Committee is not doing enough for the village although they confirmed that the committee is elected. When asked why they do not elect new people, they answered: *"the position is corrupt"*. They believe nothing would change if someone else was elected and it seems their resignation is the consequence of the traditional order of village hierarchy – they themselves certainly do not feel competent to run for the seat.

Throughout this description we can observe on one side, a curious negotiation between the forces of global markets and the world economy and on the other, the aspirations of the local community and the responsibilities of village officials based upon their connection to the land and to tradition. Thus, the local topography is a landscape of a kind of reconciliation with already reconciled and unreconciled fragments (Figure 6-42). This is a territory where concepts of the techno-capitalist order are engaged through the traditional conduct of rites and values.

*Figure 6-42. Different parts of the Lijiafang village. Claims on the interstitial territory of local topography are the embodiment of a composite order. Some reconciled, some not – they represent negotiation between traditional and techno-capitalistic forces. © Tomaz Pipan.*

The local elites are powerful players that dictate the development of the area, however at the same time, they have to be cautious and provide for at least some level of civic participation for the rest of community to which they have a responsibility. The individual villagers sadly do not use their traditional communal right to territory, mainly due to inhibitions forced upon by the traditional order. However, at the same time this order assures them a modicum of civic participation (voicing their opinions over a general state of affairs when developments expand, and asking in return some services like the library and hospital, perhaps higher rents) and is a good starting point to expand on this, particularly through the ownership of their plots and land within the village and the shaking-hands village. In terms of reconciliation of local and migrant communities, the interstitial places also play a significant role (Figure 6-40 and Figure 6-41). They are a type of neutral ground where these communities can coexist and mingle; similar to the case study of New York's Central Park in chapter 5.2. On the other hand, these areas benefit the regional corridor as well as local villages. The villagers cater for extra housing for migrant workers, and the villages are interwoven across the regional corridor, so have good access and transport connections.

#### **TOPOGRAPHY OF SHANGBAOTAN VILLAGE**

The example described shows just how fractured the referential horizons of these territories are. That is not just the case in Lijiafang village, as the following example illustrates. This case study was carried out in the Hengshan administrative village (pinyin: Héngshān, simplified Chinese: 横山). The administrative village is bigger and consists of 5 natural villages. Our interviews were carried out in Shangbaotan village (pinyin: Shàngbǎotán, simplified Chinese: 上宝潭) (Figure 6-43), the adjacent village to Lijiafang village. The reason I chose this location is due to some very recent industrial developments that have appropriated local agricultural land in the last few years. A typical interstitial space (Figure 6-45) shows a great richness in terms of negotiation and referential horizons.

This composite condition consists of an ancient banyan tree that *"serve as meeting places, particularly during the heat of the late afternoon"* (Knapp in Knapp ed. 1992: 104), a pond and local village gardens and is placed between the historical village and the new shaking-hands village (Figure 6-45). At the east side the village connects to the regional corridor where new industrial acquisitions were placed to be conveniently close to the regional infrastructure (Figure 6-43). The wider area has been recently refurbished and a children's playground and ping-pong tables were added, as well as new paving and greenery alongside the pond. In addition, there is a pavilion on the west side, which is largely left empty, as people still prefer to use the old tree to socialise. Just next to the tree area are the village gardens, and in this case the entire area is used for the allotments. As explained by one of the locals who works in a local school as a cook – the villagers like to tend to the gardens in their free time in order to wind down and relax.

Figure 6-44. From left to right: Public space under a tree, re-allotted gardens with shaking-hands village in the background, fish pond, new cardboard factory. © Tomaz Pipan, 2012 and 2013.

Figure 6-45. Birds-eye perspective view of an interstitial area in the Shangbaotan "natural" village. Typologies and typicalities can be attributed to traditional and to techno-capitalist orders. © Tomaz Pipan.

In the south west corner of the area – in the first row of buildings of the old village – a Taoist temple to a great warrior called Kang Bao Yi is placed (Figure 6-44 middle, right). He was a general of Song Dynasty who died in a fierce battle with the Khitan, a tribe on the northwest border, and was later conferred the Kang Wang rank of nobility by the emperor (康王 in Chinese, Wang means a person with noble status, similar to a duke). As a war hero, Kang was worshiped by both government and people and acquired a godly status. The temple holds a yearly ceremony in which locals parade around the village carrying Kang's statue in a sedan. Villages from other townships also participate in the event. The date of the parade is around 1<sup>st</sup> to 9<sup>th</sup> October (in the Chinese lunar calendar, which translates to approximately late October or early November)<sup>32</sup>.

On the east side, a new paper and cardboard factory, the Hongxu Packing & Printing Co. Ltd was opened in 2009. There are more than 200 workers in the factory, some of whom live in the village. The Village Committee rented out the area to the new investors and due to this expansion the village gardens had to be re-distributed and re-allotted.

In general, the villagers described a similar political organization to Lijiafang village. Before the factories this was an agricultural village mainly growing rice and fish. Political power is entrusted to the Village Committee who are responsible for the development of the village. They rent areas out to investors and producers and money from rents is then channelled back to the villagers through the committee. In return, the Village Committee also takes care of the public spaces, the temple and the refurbishment of the village. Individual buildings have to be built by individual families and the committee does not invest in this.

This short description again clearly alludes to a composite way of dealing with local conditions and problems, especially when it comes to the question about affinity to agriculture and working with the land. The pond and the banyan tree are typical entrance markers of ancient villages, and the local temple and its presence show just how important local customs still are. However within this order is the reality of contemporary economic condition e.g. some of the land was used to build a shaking-hands village and locals rent out their old houses; another area was rented to developers to build a cardboard factory (Figure 6-44, right).

Again we can observe that the range of engagements is much more diverse than in the regional corridor, and simultaneously refers to traditional and techno-capitalist horizons of commitment. This

.....  
<sup>32</sup> Information obtained from the interviews with the temple guardian and <http://baike.baidu.com/view/402043.htm> accessed on February 2014.

in-between area depends on both orders to exist. It provides the local villagers with a means of economic survival and at the same time preserves at least a tenuous connection to the land and cultural attachment to history by way of the temple and attached yearly ceremonies. Throughout this description there is a curious negotiation between the forces of global markets and the world economy on one side and aspirations of the local community on the other. This gives us a starting point and set of indicators for how to think about a new type of order that benefits both the regional corridor and local topography. The question is whether this composite territory offers a potential for reconciling the two orders, or whether it enhances the conflict.

In the interstitial territories, negotiation is the matrix within which a fundamental question about the relation of "culture" to "nature" is played out; between exploitation of and respect for natural conditions, this is ultimately a question of the civic order which embodies an ethical interpretation of nature. We can attribute this to the mixed horizons of reference and especially to the ability of the Chinese political system to integrate grassroots decision-making with the centralised institutional order. This negotiation between top-down and bottom-up is a proven formula that has worked well in the past so we now turn to the development and historical precedents for this negotiation.

### 6.3.2. Negotiation of Informal and Formal

The sharing of power at local village level between institutional dispensation (that being either communist or imperial) and a grassroots, informal, locally managed rule of rites through village representatives has historic precedent in China. It is a political composite that came out of the practical management of Chinese empires. The size of China, although different throughout the rule of various dynasties, was always vast. The emperors upheld their authority through laws that were in part based on Legalist ideas<sup>33</sup> and employed different means of enhancing control of the empire, ranging from infrastructural works (roads, canals, cities) to the official magistrates that dispensed law in the cities. Even so, it was virtually impossible to rule such a great area through the state apparatus alone, especially when it came to the myriad of villages set into the vast agricultural landscape (and China was first and foremost a rural culture). Therefore, the disputes, conduct and governing of villages was done locally by an informal justice system where *"ethics and moral principles are more powerful than legality."* This justice system was based on the Confucian rule of rites that had its origins in *"transformation of rituals at religious ceremonies into feudal ethical codes"* by the Western Zhou rulers (1046 – 771 BCE) (Hu 2007: 46-54).

.....  
<sup>33</sup> The Legalist school held a diametrically opposite position to Confucianism. Its basic premise was that human nature in its essence is egoistic, opportunistic and corrupt. People had to be ruled by strict laws, breach of these laws resulted in severe punishment in order to uphold civic order and harmonious society. For this purpose, a strong centralistic rule was deemed necessary to unite all factions and make social order possible. There is no benevolent reciprocity between the ruler and the subjects. Instead, the emperor does not rule by example but by authority mandated by the position of rule itself.

Villages governed themselves through informal institutions of elected representatives that acted as heads of villages. The bulk of disputes were managed "unofficially" through a local justice system that was based on the rule of rites and still present in Qing dynasty (1644 – 1911 CE) where *"much was left to informal governance, by communities and kin groups, and a great deal of the work of government was undertaken through collaboration with the unofficial leaders of society."* (Huang 1998: 110) The central ruling authority had to work with these local informal institutions to manage imperial China throughout its history. The fact that China developed this reciprocal relationship between the official and unofficial institutions enabled the perpetuation of the empire well into the beginnings of 20<sup>th</sup> century.

As long as locals paid taxes and did not obstruct the institutional order and its law, they were allowed to govern themselves and manage their disputes locally. This alludes to a curious type of freedom and bounds of freedom that carry their significance into contemporary policies and management between local villages and the regional government. However, if disputes were not resolved on this local level an official arbiter stepped in. Going to the arbiter was considered shameful as it meant that the local community was not able to deal with the problem by itself. These disputes were managed in county yamens (pinyin: yámén, simplified Chinese: 衙门), or seats of imperial authority, in the nearby city that acted as a *"main center for negotiation between bureaucratic government and informal authority"* (Friedmann 2005: 97)

*Figure 6-46 LEFT: Official Session in a Chinese yamen, Guangzhou, before 1889. RIGHT: Chinese Yamen at Shaoxing Fu, Zhejiang Province, 1803 © Author Unknown, public domain, accessed at Wikipedia in May 2013.*

The two systems of governance coexisted side by side, and their combination gave the rise to a complex political system comprising *"formal legal system for official government, the informal justice system for unofficial societal self-government, and the semiformal justice system for the part-state part-society intermediate sphere where the two met and collaborated"* (Huang 1998: 100).

This fragile balance of juridical power and dispensation of law was a thing of praxis and not set up as set of instructions that should be followed. Its workings were not something that can be described in a law, but were ingrained in practice and tradition. This system came to most harm during the Great Leap Forward (1958 to 1961) and subsequent Cultural Revolution (1966 to 1976). During the Great Leap, every facet of daily life was centralized and internalized in the worker's communes. The local community and its unofficial rule of rites was abolished and party officials ran all aspects of daily life through the workers' communes<sup>34</sup>. These "*combined the three sectors of polity, society, and economy [...] bridging the traditional bifurcation of the state and society.*" (Ahn 1975: 632)

Reforms of radical centralisation took decision-making from locals and gave it to party officials, breaking down the traditional balance between informal bottom-up and formal top-down rule. Finally, in recent years, this informal to formal negotiation has been reinstated and has gained political recognition in the form of the Organic Law of Village Committees. The policy was gradually implemented from the 1980s to 1998 when more than 80% of villages held local elections of village representatives into the Village Committees. (Wang & Yao 2007: 1635-1637) This act has important repercussions, as the 'bottom-up' comes from the local community, drawing on the traditional order.

Detailed interviews in Lijiafang village show that this local self-governance seems to exist only on paper, as the head of Village Committee is the party official. This problem is serious and the subject of wider academic as well as political debate and is difficult to address in full here. For our purposes what is relevant is that the rural level of governance, despite the control of the party, needs to be local and pinned to a specific village. This means that it draws from concrete engagements and remaining fragments of the traditional order explained above, which brings with it a responsibility to the village locus as such. This gives direction to, and a possible reinterpretation of the role of institutions in natural states that favour a more inclusive civic order, despite the reservations by North et al. (op. cit.)

<sup>34</sup> Please refer to charter 5.1 for historical references on workers' communes in socialist China.

<sup>35</sup> Organic Law of the Villagers Committees of the People's Republic of China, accessed at <http://www.china.org.cn/> on February 2014.

that the natural order is exclusive due to limiting access, but fail to consider deeper significance of tradition and history as ethics.

The merging of institutional and grassroots orders is not only present within the domain of local villages with proper "hukou", but also exists within the shadows of the regional corridor amid industrial buildings and six storey dorms where life persistently resists the systematization brought about by infrastructure. The passing of the Organic Law is, beyond the creation of the SER itself, a promising indication of central political awareness of the issues at stake, and a desire on the part of the otherwise disenfranchised for fruitful change.

### **6.3.3. Informal Topographies Structure the Regional Corridor**

The regional corridor is subject to the whim of the economy. Its technological systems in the form of infrastructure and Fordist-inspired notions of production (see chapter 7.1), perpetuate the growth of a proto-urban topography through elements like road infrastructure and industrial compounds. The imperatives of the economy use infrastructure to construct a non-hierarchical geographical network, creating a landscape that is ready to be used and dispensed within the economic processes of global capital (see chapter 7.2). However, the systemic nature of the network is being challenged by local routines of daily life in the form of informal food markets, grocery stores, shoe repair shops and other informal activities – a grey economy within the regional corridor.

This claim for a challenge to the status quo might look insignificant against the totalising character of an industrial meshwork stretching 200 kilometres in each direction; yet these places represent the aspiration of the local migrant community and bring with it the legacy of history and its continuity. It seems that the local migrant community carves its living places by way of pockets of public life, as explained in chapter 6.2.2 and through more engaged areas like local markets and nodes of public activity connected to everyday errands and services. Also described in one of the examples below – migrants are not necessarily only destined to industrial wages and labour; more entrepreneurial individuals start small industries themselves and can aspire for a more engaged participation in the techno-capitalist order. These moments of individual commitment in the form of informal markets or small migrant TVEs can show the possibility of making the infrastructural network a genuine place of civic commitment by a wider group of participants, not just the narrowly defined elites of Village Committee leaders, party officials and overseas investors.

These assertions are explored in the next two examples of an informal market place and a migrant industry enterprise. Through them we can ascertain the spectrum for civic commitment of migrants and the capacity of the regional corridor to accommodate negotiation of conflict and sharing of power.

However this power plays out within the dominant character of the regional corridor, that is economic capitalization. Even though the logic of the economy delegates obedience to the order of "the System", it too needs to heed to the necessities of life that are made explicit in an understanding of history, continuity and tradition, even if in a fragmentary form. In addition, it is argued that even though the regional corridor is a construct of "*oikos* of capital", it needs to respect historical precedence for a compromise between institutional and informal orders to emerge, as already explained in the previous segments of this chapter.

#### **AN INFORMAL MARKET AND A SHOPPING MALL**

*Figure 6-47. The Jiajiale Department Store with the informal market all around it. © Tomaz Pipan, 2013.*

In places close to local topography and in areas of Village Committee seats the regional corridor commonly becomes programmatically richer. In the Zongkeng administrative village (pinyin: Zhōngkēng, simplified Chinese: 中坑), on the corner of Taihe Road<sup>36</sup>, across from the villagers' committee is a Yinghua Department Store (pinyin: Yīnghuā bǎihuò, simplified Chinese: 樱花百货) (Figure 6-48). The shopping mall (Figure 6-49) is stocked with global brands and consumer electronics like Samsung and Nokia. The first floor is dedicated to textile brands and a western style grocery store. It is a fully air-conditioned retail space built by the Village Committee, a common occurrence across the PRD, where Village Committees compete for prestige and want to show their influence and standing through commercial ventures other than industrial estates.

<sup>36</sup> The corner is with an unnamed road that leads to Dayuan 1<sup>st</sup> Alley.

*Figure 6-48. Location of the Jiajiale Department Store and its informal market, Zongkeng administrative village, Shipai. © Baidu, 2014.*

At the time of the 2012 and also 2013 visits, the shopping mall was mainly empty, only a few customers were browsing and window-shopping (Figure 6-49). There is a hairdresser and a fast-food restaurant in the ground floor retail spaces that were built as additions to the shopping mall. The prominently designed corner retail space of the shopping mall remained empty during the three years; a familiar occurrence throughout the area. The renting of this space costs 20.000 RMB (£2000), which is significantly too high for local merchants. Apparently there is not enough buying power in the local community to support a fully functional shopping mall; it would appear to be an over-optimistic speculative investment, a status symbol for the village elites, imported wholesale from a more urban and more middle-class setting. Instead, the parking area on the left and right side of the shopping mall was transformed into a more local type of market (Figure 6-47) bustling with goods, selling home necessities ranging from pens and pots, shoes, pyjamas, cheap garments, hangers to electric fans and towels (Figure 6-50). There are basic repair services offered like repairing umbrellas, sewing services and a shoemaker.

*Figure 6-50. LEFT: the informal market on the parking lot of the shopping mall with its temporary structures. RIGHT: a make shift tailor repair shop. © Tomaz Pipan, 2012 and 2013.*

The Village Committee recognizes the need for this type of local market and so the individual sellers are charged 400 RMB (£40) for a space and a tent. These provisional tents are starting to become permanent. There are no similarities with the shopping mall in typology or in the goods or services offered. Instead, we can draw parallels with the type of market depicted on the Qingming scroll in chapter 6.1. This market is more affordable and sells items for the everyday needs of the migrant workers as well as local villagers. It spreads into the ground floor of adjacent houses where types of products range from home necessities and garments to groceries. Even though there is every opportunity to house these essential programs within the mall real life "demands" a street-like organization that is cheaper and more accessible, exhibiting a decorum and style of acquiring goods with a deep familiarity to the rural setting (not to mention contemporary architects and planners in European cities of the present).

The south of China is warm and humid; an airy street is preferable to a big shopping mall that needs to be expensively air-conditioned for comfort. Within this duality the difference between the two approaches to nature are reflected. The techno-capitalist doctrine takes the typology of a shopping mall as a symbol of consumer society. It is a hermetic, self-sufficient building that internalises its existence. Inside, chain stores modelled on the western ideal offer a world of curated and controlled shopping experiences. It has an immersive quality eerily comparable to the "digital sandbox" explained in chapter 6.2. On the other hand, the smaller adjacent local market with necessities for daily life borrows from the traditional example of the Qingming scroll. Being connected to local limitations such as economic outreach of users or climate, the local market is made as a sequence of small tents and inhabitations of the ground floors of adjacent buildings, where household life can spill onto the street and appropriate it as required for cooking, dining, mending, etc.

The cohabitation of shopping mall and local market points to another reciprocity between the informal and formal and also between traditional and scientific nature. Namely, at first glance it seems as if the local market is taking advantage of the regional shopping mall, using well prepared asphalted parking for its business. Although we could just as well argue that the shopping mall benefits from the local topography and finds its way into the local culture through the presence of the market. It seems that cohabitation of central and grassroots institutions can benefit both orders.

### **THE INFORMAL MARKET IN THE SHADOW OF INDUSTRIES**

In another example, the regional corridor at certain intervals changes from industrial compounds into services at ground floor with dormitories above (Figure 6-51). On the Kangwang Road, close to Shangbian Road this linear "high street" typology boasts a chain-branded pharmacy and mobile phone store, restaurant, tailor and barber shop. Here, migrant workers can buy into the liberated world of consumer society. The shops are well maintained, stocked and organized. Due to the particular time of day (around 10am) when the photographs were taken, the majority of migrants were working and the place was empty and deserted.

*Figure 6-51. The "high street" along the Kangwang road stocked by chain stores and brand names. © Tomaz Pipan, 2012.*

However, turning a corner and going behind the row of buildings onto a parallel alley behind the main street (Figure 6-52), here in the shade of dorms and industrial compounds, is an informal food market (Figure 6-53), much less controlled and organized than the one next to the shopping mall. The temporary stalls are made of a light bamboo structure and occupy one side of the alley. The other side is full of advertisements mainly publicising rooms for short and long term rent in the dormitories above. Managers and women with children occupy entrance (lobby) rooms, leading to the upper dormitories. The doors are open, extending their private space onto the alley. Walking along the market, people bargain, chat, lounge by the open doors of their houses. Food stalls sell everything from meat to vegetables grown on local allotments less than a kilometre away. Despite the time of day, the alley is relatively full and active (Figure 6-53).

*Figure 6-52. The location of the informal market in the palley to the Kangwang road. © Iwetta Makarewicz 2012, tutored by Tomaz Pipan.*

*Figure 6-53. The life and daily situations along the informal market. © Tomaz Pipan, 2012.*

The infrastructural space and non-hierarchical urban structure of techno-capitalism it appears to constantly be colonised by elements which evoke the traditional order, such as informal markets. The apparent reason for this colonisation is economic; the rents on market stalls are cheaper for traders than the rents on expensive shops and malls. However, upon examination this apparent reason falls apart, as there is nothing to stop the market traders getting together and renting a shop collectively on the "high street". There are other reasons they agglomerate on the informal backstreet market: a few examples may be conversations, social relationships, mutual help and benefit and not least the hot and humid weather conditions. These are examples of concrete engagements with one another, with the natural conditions and demonstrate civic commitment both to a physical place (the market is in this location, so the market traders remain in that place) and to other people (this is where relationships are nurtured and flourish). Flexible typologies of "architecture" (tents and bamboo market stalls) allow this more traditional mode of life to squeeze in the gaps left by the techno-capitalist urban order, but this flexibility also renders this type of market very vulnerable to economic shifts.

On my last visit in 2013, the vivid back alley market had been moved to a more established and regulated covered food market in a newly developed housing estate in the adjacent block (Figure 6-54). The new food market was less lively and featured mainly established sellers. As the area becomes more affluent, the services and accommodations change and life becomes swallowed up by economic imperatives. It seems that the resistance of traditional life and with it the commitment of individuals to civic participation is still vastly subservient to the whims and wishes of capital.

*Figure 6-54. LEFT: deserted alley where the unofficial market was. MIDDLE: the new speculative developments with new shops and market area. RIGHT: the new covered market area with official grocery sellers. © Tomaz Pipan, 2013.*

**DONGGUAN YIJIA PACKED GOODS FACTORY**

In the Zhongkeng administrative village along the local road from the Yinghua Department Store is a small industrial area. One of the industrial compounds is shared amongst two entrepreneurs. Split squarely down the middle of the compound, the left part is rented out by a migrant entrepreneur, with dormitories, a front house and industrial facilities to the rear. The Dongguan Yijia Packed Goods Factory (simplified Chinese: 东莞亿值包装制品厂) is a private venture opened in 2009 by a migrant newcomer. She came here to make luxury wooden boxes for gifts. Before her venture, the premises were occupied by a factory making feather bedding. Yijia Packed Goods make boxes for luxury goods like jewellery, watches, wine and fine drinks as well as for playing cards, gambling chips, cigars, etc. (Figure 6-55.) They have a capacity of 500 boxes per day.

The industrial compound has 50 workers and the owner. Within the premises is the office, exhibition room, dormitories and an individual house for the owner. The owner and the workers all live within the compound (Figure 6-57.). The owner rents the premises from the Village Committee and exports products worldwide catering for home and international markets. As they do not have their own distribution network, they are sub-contractors for larger industrial producers in Dongguan.

This is quite a sizable TVE enterprise that already requires support from the local Village Committee. Although as big as some of the industrial enterprises in the area, it shows that migrants can also contribute and participate in capitalization and commitment to the techno-capitalistic order. Not just as workers, but also as entrepreneurs who can aspire to something more than just mediocre wages. This example is particularly significant as it shows that the source of investments is not solely foreign capital, but can start to become Chinese - a promise for the future for an internally produced economy. This also suggest a possible civic order in the regional corridor that is not strictly in the domain of big investors but allows for smaller local produces to find their niche and express their commitment and aspirations.

*Figure 6-56. The entire industrial compound. Left side rented by the luxury box factory, right side by a different entrepreneur and industry. © Tomaz Pipan, 2012.*

Figure 6-57. The industrial compound is shared between two different producers. © Mariana M. Ferreira 2012, tutored by Tomaz Pipan.

### 6.3.4. Conclusion: Composite Order

The two types of composite order described above: first, the interstitial spaces of local communities and second, participation in regional corridors by markets and industrial compounds, show that fragments of traditional life and conduct still exist and to some extent even govern a contemporary composite order. One of the main reasons for its existence can be found in historical precedence for the sharing of rule between the informal and institutional governmental bodies. The informal or grassroots governance system has a strong connection to concrete engagement, history and tradition.

However, what is also evident from these examples is that different types of composite orders can support only a certain amount and certain types of civic freedoms (or freedoms for commitment) that are "permitted" within the bounds of individual localities. For example: the sellers of the local market next to Yinghua Department Store can negotiate for a relatively cheap rent on the parking lot; however they are not permitted to use the luxury ground floor retail space even though it is empty. In addition, they would most likely not be permitted to build their own more permanent structures on the parking lot, in fact – the Village Committee built additional cheaper spaces that are rented out for 2.000 RMB (£200) as they saw this was a more profitable venture. This level of commitment is clearly out of bounds. The commitment of the grey economy in the regional corridor is tolerated as long as it does not conflict with the overall agendas of the local elites and their aspirations. There is no freedom in terms of reconciliation of conflict between the two sides; the mandate vested in institutional order represented by developers and local officials gives them complete authority.

On the other hand, freedom as pertaining to reconciliation of conflict is to a limited degree present in interstitial spaces of local villages as exemplified by the Lijiafang and Shangbaotan topography. Here Village Committees have to oscillate between their personal aspirations and responsibilities to their local community. Despite the fact that contemporary questions range from redistribution of land, extraction of rent to building a new shaking-hands village - the way these negotiations are handled carries the authority of tradition. However, the freedom is again strictly delineated and can be practiced only within the deregulated area given to the individual families.

There is very little hope that informal urban structures like ad-hoc markets will ever be able to reshape the shopping experience of the mall or that a shoe repair man will influence an industrial process within a shoe factory. However, some leeway for the idea of precipitation of knowledge from the direction of local culture to global capital should be allowed<sup>37</sup>. Maybe we should see a more established and engaged counterpart to the global capital in local communities and their claim to the

<sup>37</sup> The power of knowledge imbedded in praxis is well apparent in the example of "Insourcing Boom" in chapter 7.2.2.

territory. Moreover, should China's tiger economy suffer a significant downturn, the negotiating skills and capacity for improvisation of these "little people" will be most in demand<sup>38</sup>. For these and other speculations regarding what the described orders could offer, we now turn to the conclusion of the entire chapter.

.....  
<sup>38</sup> A good parallel to possibilities within this context is the importance of urban gardening in Detroit, as discussed in chapter 7.3.2.

## 6.4. Conclusion of Chapter: Negotiation of Orders

This chapter was predominantly engaged with two tasks. First it identified two fundamentally different attitudes towards nature – traditional and techno-capitalist, and second it showed through description of typicalities and topographies in Shipai how these two attitudes are reconciled in the contemporary life of rural industrial area.

### GENERAL FINDINGS

The SER generates intense pressures for everyone involved, establishing a basis for competition (how grassroots communities rent out their land for industry) and sharing (how agricultural land gets re-allotted so that each villager gets a part to keep up the gardening). These new organisational structures show how intense coexistence of traditional and capitalist claims open up questions pertaining to moral horizons, and how these might be reconciled. In the case of the PRD urbanisation in general and Shipai in particular, these horizons are most commonly portrayed as extravagant abuse of agricultural land and local people, customs and way of life for the imperatives of liberal capitalism. However, closer inspection reveals a more complex interaction between, on one hand, investors, state-managed infrastructure and economy and on the other, traditional culture residing in customs of migrant workers and the local community - ways of life belonging to a historical continuity. Only time will tell if this composite is anything more than a mishmash of typologies and disparate fragments of life. Or in the words of Vesely: *"... complexity is often the result of an attempt to reconcile different spheres of reality. If reconciliation is successful, the whole situation may be enriched: if it is not, complexity remains as only an unfulfilled promise of richness."* (Vesely 2009: 303) However, these existing composite topographies – part synthetic and part traditional – give us precedents to speculate on a new civic order.

The two described orders have a fundamentally different attitude towards the treatment and understanding of nature. The concrete engagement that defines a traditional type of nature rests upon an understanding of local conditions. On the other hand, the techno-capitalist order takes nature always through the prism of mathematical abstraction where ecology and care for local community are political statements and a legal prescription where management loses its connection to reality. Reconciling the two can be seen in practices of the local community that exist due to the Organic Law of Village Committees, where concrete engagements manage references to techno-capitalist and traditional orders simultaneously.

**CAPACITY (FREEDOM) FOR COMMITMENT AND THE ROLE OF INSTITUTIONS**

In Shipai, due to its composite nature, commitment is split between traditional commitment to family and community on one side, and on the other side personal gains from land capitalisation. Today we see fragments of the traditional order still persisting in local culture due to the aforementioned organic law. Informal, local self-governance outlived Maoist reforms and is part of a shared system of governance mixing institutional order with grassroots institutions spawned from traditional village conduct. This shows the possibility of mixing the natural state order and open access order creating a kind of "doorstep condition" as identified by North et al. where rule of law starts to apply also for elites. However contrary to North et al. who see the doorstep condition as a transient phenomenon, here it is argued for a possibility of permanence for this transitional condition, as a more fruitful framework through which a wider civic participation might be possible.

On one end of the spectrum, local self-governance is part of this coexistent condition. The importance of this lies in the connection of committee members to their land and to the customs of tradition, the ethos of which is still present within their management practices. Their topography is governed largely by concrete engagements and within what we have called 'traditional nature'. The 'civic' spaces enable freedom for civic engagement to some extent, and are a new type of space, where decisions are still connected to tradition, even though they deal with economic questions like land capitalisation. That said, freedom of commitment is limited to the confines of the local community within a predefined physical boundary set by the committee. Villagers can exercise freedom within their own plots and claim remnants of rights to the once communal land, now owned by the committee. But at the same time, individual Village Committee members and managers are looking for personal gains and self-empowerment. This boundary between 'freedom for' and the delegation of norms is ingrained in the local *guanxi* practices that are (at best) ambiguous, but could be balanced by traits and qualities of the 'open access' order (North et al. op. cit.) in which institutions, as opposed to networks of individuals, hold the power in a society. This is discussed in more depth in chapter 8.

At the other end of the spectrum lies the techno-capitalist order that through systematisation and with the help of technology is creating a self-referential world where nature is seen as a concept – an image, constructed through the vocabulary of modern sciences. Within this order the economy as a private "space" (both conceptual and physical) of developers and party officials is the decision-making environment. The space of engagement and civic reconciliation of conflict is taken away; and we could argue that a pure economic space of global capital is by definition non-democratic.

Within the techno-capitalist order, infrastructure plays a vital role in changing freedom for civic commitment to freedom from any kind of immediate civic engagement - except fairness in business

deals and respect for obligations. Workers can aspire, at best, to entrepreneurship and capital acquisition to gain power, however the majority can only hope for participation by earning wages and consumption of goods during their free time. This realigns and refocuses the human desire for freedom to participate to that of consumerist logic. By doing so, global capital frees itself from the constraints of democracy<sup>39</sup>.

In the situation described above, two kinds of physical boundaries emerge. Both are boundaries between global capital and local tradition. One is between the techno-capitalist order and the local community as the interstitial topographies. The other is formed between the techno-capitalist order and migrant worker community within the regional corridor.

The migrant workers have much less "traditional freedom", however through their commitment to their everyday needs and relationships they carve out pockets of participation. Even within this infrastructural space there remains a place for negotiation as life demands it. The local market is an example of such a negotiation, as well as the migrant-owned box factory. Even though the local market was not a typology foreseen by the economy of infrastructure it persistently finds its niche and negotiates its way into existence. Some level of civic engagement and negotiation within the regional corridors is possible, although in the majority of instances only to the extent that the regional corridor benefits from informal local practices. The fragility of the negotiated spaces of participation means that when circumstances change, the whole culture of everyday life for migrant workers can be radically transformed.

### **ROLE OF ARCHITECTURE**

Throughout this chapter we have examined a wide spectrum of conditions and typicalities that architecture supports and enables. Most notably, we have explored the dichotomy between the traditional structure of the village and the infrastructural formatting of the regional corridors.

The traditional structure of the village supported the order endowed by cycles of nature. The concrete engagement with nature which was a precondition of this structure was coupled both with civic responsibilities and freedom for civic engagement within the locus of the village community. This rested upon cultural traditions embedded in a long history of the rule of rites, ancestral worship and the Confucian ethos. Different places within the village developed spatial hierarchies that supported this order, such as the position of the pond and ancient banyan tree to mark the entrance, the hierarchy of the main village square with its ancestral temples, joss burning oven and communal building. This

<sup>39</sup> Please refer to chapter 7.2 for a more in-depth analysis of reciprocity between capitalism, industrial production, consumerism and freedom for commitment.

structure still exists and to some extent supports local politics; however it is increasingly and more freely claimed by other uses and interpretations. For example, the beautification of public spaces in villages (ponds, streets, and entrances) and new amenities (basketball courts, children's play areas and parks) are "public spaces" emptied of traditional civic meaning, although they create a 'middle ground' for locals and migrants. They represent a contemporary response to the commitment of local elites to the traditional order and to concrete engagement.

The infrastructural ordering of the regional corridor has strong repercussions on the places of decision-making. Villa compounds and the private houses of wealthy individuals are proxies for villages as centres of decision-making and civic participation. Indeed, the historically communal affair of decision-making, especially as it pertains to the regional corridor, has been largely the domain of elites to which the 'disconnected economy' of the individual villa lends itself well. On the other hand, the industrial compound and the infrastructural space of the regional roads represent a locus of migrant workers, filled with the remnants of customs and communal life that they bring with them. Even though the architecture is not geared towards the support of communal and traditional life, it does accommodate it. In addition, the overarching superposition of local topography and regional corridor assures the benefits of village "public spaces" for migrant workers in the regional corridors. The weaving and constant negotiation between the two types of place create a generous space that in fact accommodates change and negotiation well.

Next, we turn to a discussion of the limits of what these topographies can and could be. Above all else, they are quite young, and their possible development is still uncertain and widely open. The physical and ontological flattening that the infrastructural corridors engender suggests a different set of relations between topography and civic order as compared to those of the classical agora, forum or piazza, where the hierarchy culminates in a town centre as a civic locus<sup>40</sup>. The infrastructural identity of the topographies presented restricts such readings. In a similar manner, it is also hard to draw any parallels with rigorously structured Chinese traditional cities where walls meticulously prescribed the order, shape and program of the whole city and each part. However, within the apparently undifferentiated sprawl of economic efficiency, there are, for example, shops along the roads and markets tucked away in alleys of the regional corridor in which one can find fragments of the sort of life generally supported by towns. Infrastructural urbanisation promotes non-hierarchical structuring of the expanse, where pockets of town happen almost sporadically. In the best case, we could suggest a comparative reading with mature contemporary rural-industrial conditions like the "Third Italy" and try to understand questions regarding the civic and the social through the lens of infrastructural

<sup>40</sup> Further examinations of unstructured urban network are considered in chapter 7.2.

urbanisation that does not resort to the cliché of "natural" and "artificial". This comparison is the subject of chapter 7.3 and more explicitly chapter 8.

This brings us to the fundamental question of how to look at the topography described as a potential city. In this respect, examination of the different typicalities from a close range hints at a possible evolution into a long-term and sustainable civic order. This appears to be a matter of finding the hierarchy – similar to a high street – that achieves cohabitation and continuity with the traditional orders. The typology of the industrial clusters (concrete frame and infill or platforms and sheds with service-yards between them) is geared towards economic and production efficiency and is completely devoid of meaning, which is advantageous. In other words, they are non-specific in terms of programme and usage, which makes them extremely flexible and adaptable, accommodating change over time well. Refurbishing and re-programming of old factory compounds has been successful in mature Chinese cities. The problem therefore is not in the typologies of the area, but rather in its topography – how is the life that is present, the knowledge that is embedded, and skills that are engendered, able to adapt but at the same time not lose their orientation. In this respect, the case studies described show that within the sea of infrastructure, a seed of traditional and local life persists in migrant workers and local. This can be seen as a comparative advantage over more settled topographies, as it offers the beginnings of a hierarchical structure. This offers an opportunity to better understand an unresolved question in our own cities – the potential civic nature of what is too-easily generalised as "industry", again a topic addressed in chapters 7 and 8.

### **ROLE OF INDUSTRY**

Speculating upon the future development of such topographies is extremely relevant especially because the monofunctional industrial "gold rush" of process and assembly (P&A) will not last forever. Dongguan is chronically addicted to foreign direct investment (FDI) which in turn brings in only fresh P&A and no knowledge or sustainable research for independent development. That is why existing pockets of local life, tradition and freedom are so important. They represent the kernels of a hierarchical order that can help these areas adapt to the inevitable changes, and avoid collapse.

In order to achieve a significant shift from monofunctional P&A oriented industrial production the industry needs to evolve to technologically higher added-value and to connect to research and development (R&D). This was recognized by the 2008-2020 strategic plan for the PRD and the Dongguan Eco-Industrial park is a consequence of these changes and insights. However, this shift can be difficult, especially as academics point out that R&D needs prime academic and research institutions (Porter 2000, Lai 2004, Komninos 2002). In addition, P&A does not encourage "knowledge spill-overs" (Komninos 2002) which are needed for long term competitiveness, usually

attributed to R&D clusters. Even so, it helps to understand that innovation works best when knowledge is embedded in the culture where the culture is local and specific. In addition, by retaining both agriculture and industrial production, crucial inputs are kept, in the form of skills that inform the innovation environment, geared towards research in these sectors. Consolidating and protecting material cultures that are disappearing (such as fish farming, rice farming and bamboo usage) by preserving the nuclei of traditional civic life, might offer an unorthodox reinterpretation of regional corridors and an alternative reading of the infrastructural economy as a phenomenon. This is in contrast with, for example, the private walled-in self-sufficient Longhua Science & Technology Park – a Foxconn enclave in Shenzhen.

By clustering industry and agriculture with tertiary activities and open access institutions one may imagine structures of local collaboration able to contend with the shifting currents of capitalism, and perhaps even be able once again to reconcile their vulnerability in history with the natural conditions.

#### **TOPICS FOR FOLLOWING CHAPTERS**

How the urbanisation described will play out or what the potential is for these negotiations still remains to be seen. The topographies we are confronted with look like a field of fragments created by superimposition of a non-hierarchical infrastructural system of production on top of an ancient pattern of villages, as if the historical sea of rice paddies had suddenly grown factories. This is also evident in the mismatch of scales that is a symptom of a mismatch of meaning, resulting in conflict between the vast infrastructure oriented to streamlined efficiencies and small nuclei harbouring the remains of an ancient and rich tradition. To this is added a mismatch of political authority and governance, where the production corridors enjoy FDI, and are playgrounds of local elites and villagers exercise their few options in the remnants of remaining land. The kinds of choices available to the villages are exercised within the over-riding conflict: they can participate in the capitalisation of the land, selling off their heritage for short-term profit, in effect supporting the over-arching motives of an SER, and they can cultivate surviving customs within the remains of community buildings, temples, archaic trees, fishponds and allotment gardens. Finally, the majority of the population are migrant workers, with even more limited freedoms and mainly no political voice, very austere living-conditions (except for the managers in villas), and no basis for commitment to a particular segment of the world.

The description of orders and their co-habitation opens up many topics for discussion ranging from questions of civic order and freedom to questions about typology, urban structure and scale. The state of indeterminacy is accentuated by the fact that this 30-year experiment has not yet peaked and it is hard to see the spectrum of possible outcomes. To help us explore these, we now turn our attention to a precedent of the industrial cycle of rise and decline to see an example of such a dynamic.

## *PART C. Topography of Industrial City in Recent History*

### **INTRODUCTION**

This part of the research looks at the consequences of industrial development on a Western city. It does this because technological production has a history, which offers a basis for heuristic speculation on the possible futures for Dongguan in general and allows a speculative reinterpretation of the emerging topography in Shipai as a new and alternative civic order.

Dongguan is an industrial machine with pockets of civic potential safeguarded by the local community and "uncanny" references to tradition. "Scientific nature" (defined in detail in chapter 6.2.1) is punctuated by moments of "symbolic nature" still endowed with cycles of praxis. Within this ecology, the capacity for commitment has three distinct faces. First, the capacity for big profit margins to be made by local officials, developers and investors by way of the grey economy. Second, the capacity for the day-to-day wages of migrant workers to offer freedom of consumer choice to the workers in the emergent land of products. Third, the capacity for limited form of civic participation in local grassroots topographies and in pockets of migrant-led grey economies in the regional corridor.

The topography of Dongguan is at a crossroads; what is to become of this landscape – will the processing and assembly continue? Will assembly plants, plastic moulding and textile factories consume the rest of the topography and with it local life and civic aspirations? Will the impact of global consumption cease, foreign investors leave, and China find itself with a sea of empty industrial sheds (and billions of square metres of housing)? What are the possible futures and limits of the condition examined in earlier chapters? How much can it adapt to change and what are its future permutations? Is there potential for any kind of civic life within these intense territories, and how might it develop? These questions are used here as a means to better understand the nature of the conflicting topography. The speculation is necessary as it is evident that the described condition with its 30 years of development is still young, unsettled and immature.

Examination of mature industrial topographies in the West shows a tendency towards collapse and redevelopment. As China's wages increase with its consumer culture – and housing market – it is instructive to turn to examples from the history of industrialization to gain some perspective on how the PRD topography might evolve or become differentiated. To address this, this chapter sketches an overview of some of the motive forces behind industrialization in the West. It examines the cyclical nature of industrial success, failure and recovery and outlines the limits and potentials of industrial rise and decline. An examination of concrete examples, with a focus on Detroit and the Ford Motor

Company, augmented by later examples of Silicon Valley and Third Italy, enables intelligent speculation about possible futures for Dongguan and for China in general. In turn, this offers an understanding of what is possible and if there are model practices or policies in Shipai that could be fruitfully adopted in the West.

The chapter is structured around the chronological development of industrial production and the growth of cities. We begin by broadly defining the two cycles of industrial rise and decline which have occurred since the industrial revolution in the late 18<sup>th</sup> century which are outlined in the first two sections of the chapter. Then the chapter examines the details of the second industrial cycle. There were three shifts in the industrial system that took place during the second cycle and these are described and analysed. Most broadly we can say that these are characterized by changes in production and type of industry (being secondary or tertiary) and related technological and organizational characteristics. Just as we were using actual case studies as describe topography in Shipai, here analysis of technological advancements serves a similar purpose.

Detroit and the Ford Automobile Company are discussed as a guiding thread. On the basis of the transformation of their production process and description of their factories, like the Highland Park and the River Rouge complex, we will trace changes in the city, society, economy and culture. In addition to the linear narration and description of Detroit topographies, with each topic parallels will be drawn with examples in China, as described in chapters 5 and 6. Typicalities and topography of Shipai will be in constant comparison with the events and developments witnessed in Detroit. When we move beyond mass production, Silicon Valley as city based on knowledge and Third Italy as city based on dispersed industrial production will be used in a similar fashion. This helps define the limits and potentials of both examples for the concluding chapter 8.

The three different examples, Detroit, Silicon Valley and Third Italy were chosen intentionally due to their specific qualities. Each example represents a particular set of repercussions and consequences that industrial production has on the city. They give a scope and clear reading of these different consequences and therefore represent three different ways how industry is employed to construct an urban order. This range gives a good basis for later speculation about possible futures of Shipai.

Through these three examples, changes to the city and its topography are explored – the changes in people's lives, attitudes and aspirations. Each city is explored through identification of main technologies that help to identify topics of topographic order for discussion. These are then put into context in relation to the overarching research question: What are the limits and capacity of technology (as industry) to support an alternative civic order based on ethical re-interpretation of

nature? These questions will be addressed through consideration of the role of architecture, institutions and industry (production).

The first shift discussed (in chapter 7.1) is "Integrated Industrial Production" (from the 1920s to somewhere in the 1960s) – the development of vertical integrated industries like Ford Motor Company and their famous River Rouge complex. We discuss how mass production, assembly lines and scientific management came about, and how they changed the topography of the city. The second part (in chapter 7.2) describes "Dispersed Industrial Production" (from the 1960s to somewhere in the 1990s) and tracks changes in the industrial process and how it became more flexible and responsive due to economic and political changes connected to liberalization of international markets and innovation in technology, particularly containerization of freight. It also talks about a fundamental change from a culture based on unskilled workers to a culture based on perpetual change and innovation and with this birth of new type of cities like Silicon Valley. It traces the development from a hierarchical economic model to a non-hierarchical network model, connected with the shift towards management of economic flows and markets. The third part (in chapter 7.3) looks at "Displaced Industrial Production" (from the 1990s to the 2008 financial crisis), comprising deindustrialization of Western cities and migration of industrial work to the developing countries, mainly China, India and Bangladesh. We look at how Western industrial areas have coped with the loss of industrial jobs and reorganized, one interesting case study is Third Italy where individual small producers drive local topography and lively civic order.

As mentioned, throughout the topics identified in Detroit and at the Ford Motor Company, other examples are used as necessary and relevant, most notably Silicon Valley and Third Italy. However, this is not an attempt to outline a complete picture of these historical events and territories; rather they offer a spectrum for understanding what are the possibilities and limits of industrial cycles in regards to the question of the city and the civic.

## 7. Cycles of Industrialization – rise, collapse and renewal

There are two distinct cycles apparent in the history of industrialisation in the West. The first cycle emerged with the onset of industrial production and the invention of commercially viable machines (like the power loom for weaving, introduced by Edmund Cartwright in 1789). The second cycle of industrialization can be traced from the radical change in industrial production which stemmed from the introduction of the assembly line and the arrival of mass production in the 1920s. Here, we trace a brief history of the first industrial cycle, to demonstrate how industrialization makes its claim on the city and how it is connected to topography.

### **FIRST CYCLE OF INDUSTRIALIZATION**

The question about the capacity of industrialization can be framed as a transformation from factory-town to a city with civic and cultural institutions. For this, some of the best examples of transformation are the factory-towns of Manchester, Birmingham and Leeds. They came into being in a similar manner to rural-industrial territories in China, with an influx of rural migrants seeking better paid jobs in newly opening factories. Similar to China, these new industrial territories were criticised for their hideous working and living conditions – notably described, for Manchester, by Engels in *The Condition of the Working Class in England* (1845). The municipal reform act – or municipal corporations act – of 1835 was the legislative start of a transformation, when a uniform system of municipal boroughs was established, governed by town councils, elected by ratepayers. This meant that the industrial towns (where laws governing the shaping of the rapidly emerging city were non-existent) could become better controlled and so the unelected elites that ran these – and most – cities were changed for properly elected and accountable municipal governments. From here grew the drive to make these productive landscapes into proper cities. This occurred in four stages.

In the first stage, the industrial revolution created profits but also misery – the moral crisis signalled by Engels. Secondly, previously provincial centres of production – factory-towns – sought to transform themselves into self-governing cities (post the 1835 reform act, but it took a fair while for this political and social transformation to take place). Thirdly, when legislative measures for a "city" were in place, an appeal to decorum, dignity and humanity; to high culture, was required – a place which could not be filled by industry. In this sense we can refer to the so-called "Civic Gospel" a practice of municipal activism that emerged in Birmingham, focused primarily around George Dawson, an influential preacher and activist. His idea of the city is close to our initial claim, borrowed from Heidegger, that the city gives direction to (human) nature. In Dawson's own words "*a town is a solemn organism through which shall flow, and in which shall be shaped, all the highest, loftiest and*

*truest ends of man's moral nature*" (Briggs 1933: 196) This gives a sufficient ground for richer topography than one of industrial production. Architecturally, this took the form of institutional monuments; from town halls to educational bodies to charity organisations, along with the urban planning necessary to their visibility and proper functioning. This created the conditions for the fourth stage, where "art" emerged as the mark of a cultured society, and the municipal art schools were among the institutions by which cultured civic pride could be communicated to the uneducated masses, in effect creating a properly "cultured" city topography.

This gives us a good overview for understanding what needs to be in place for a topography not to only be regarded a productive resource for capitalization but also as a kind of a city. That said, the second industrial cycle does not necessarily represent a completely new set of problems arising from employment of technology; in fact, throughout our examination, we will come across some themes that surface time and again when the question of technology and machines is raised within the context of the city – decline of certain skills and knowledge forfeited to machines is one of them.

#### **SECOND CYCLE OF INDUSTRIALIZATION**

The second cycle of industrialization can be pinned to the first automobile assembly line created by Henry Ford in his Highland Park factory in 1913. In addition to the technological innovation, the second cycle is defined also by managerial and organizational change put forth by Frederick Winslow Taylor in his book *The Principles of Scientific Management* (1919). The onset of mass production in the 1920's is also when technology and science largely overcame the Romantic resistance (Ruskin, Pugin, Morris in the UK<sup>1</sup>) and became pervasive in the understanding of reality, leading to the valorisation of progress and the concept of a culture or history which could be "made".

.....  
<sup>1</sup> Please refer to chapter 7.1.1 subsection "The City of Unskilled Workers".

Figure 7-1. LEFT: Russolo, Luigi : *Dynamism of a Car*, 1912. RIGHT: Umberto Boccioni *Unique Forms of Continuity in Space* 1913, cast 1972.

In Europe, art movements like Vorticism (UK) and Futurism (Italy, Figure 7-1) began to emerge that praised technological progress and even more radically (in the case of Futurism) destruction as the driving force for progress and change. Apart from more radical connections (Marinetti was a clear sympathizer with Fascism) these movements represent the first kernels of a conscious break with history and tradition, rooted in modern technology.

Come, my friends!" I said. "Let us go! At last Mythology and the mystic cult of the ideal have been left behind. We are going to be present at the birth of the centaur and we shall soon see the first angels fly! We must break down the gates of life to test the bolts and the padlocks! Let us go! Here is the very first sunrise on earth! Nothing equals the splendor of its red sword which strikes for the first time in our millennial darkness. (Marinetti 1909 in Pugliese 2004: 26)

In architecture ideas of modernism began to emerge from the foundation in functional, scientific management outlined by Taylor as the basis for a new, contemporary, emerging society. Science, technology and progress were hailed as the ultimate answers and solace in the face of human finitude.

We claim, in the name of the steamship, of the airplane, and of the motor-car, the right to health, logic, daring, harmony, perfection. (Le Corbusier 1986: 19)

To explore how these radical changes affected topographies of cities, we now turn to the first shift; the rise of mass production and vertical integration of industrial production; an economic model where the entire supply chain is owned by one company (in our example Ford).

## 7.1. Integrated Industrial Production

The change brought about by the industrial system of making and even more so by the onset of mass production, is the most significant in shaping the recent history of the city. In short, we are talking about a change from the culture of craft to a culture of unskilled work. Its repercussions open up questions regarding technology and its connection to the culture, city and the civic. Because this is a huge topic, here the focus is on both the main changes and ideas implemented in the production of the famous Model T Ford and on the mass industrialization and concepts of scientific management (Taylorism).

First we will outline how Ford developed the mass production in the 1910s through the example of Highland Park. Second, we will examine how that brought about the vertically integrated industrial model exemplified by the River Rouge Plant that started its operation in the 1920. Within each segment, we will identify and discuss key topics that arise from these technological and organizational changes.

### 7.1.1. From Auto Craftsmen to Assembly Line

Even though the first cycle of industrialization brought about unprecedented change by a moderate means of automation (the steam engine and mechanical spinning and weaving in England), it was not until the mass production and the "scientific management method" (Taylor 1919) that technology, products and de-skilling of the workers, began to have a truly significant impact on urban topography as it produced a completely new majority – the unskilled working class.

Henry Ford and his engineers are hailed as the pioneers of modern assembly line and mechanization of the entire production process. Ford's innovation "*initially involved an emphasis on interchangeable parts and arranging machine tools according to the sequence by which parts were produced*" (Quivik 2003: 4). The streamlining of the whole assembly process was first realized at the Ford Highland Park plant (Figure 7-3) where the process of car assembly was broken down into its most basic elements in order to create an uninterrupted flow from one stage to the next. The new plant was specifically designed for production of the Model T.

*Figure 7-2 Comparison of Highland Park (BOTTOM) with Shipai area (TOP). The size of the Ford plant takes a similar area as a few industrial estates in Shipai. © Google, May 2014.*

*Figure 7-3. Aerial view of the Highland Park in 1923. ©Anonymous, courtesy of The Henry Ford.*

Based on this, the design of the building (Figure 7-3) was entrusted to Albert Kahn; an already proven architect and early experimenter with reinforced concrete. Kahn's designs were relentless optimizations for industrial production. Every aspect of the building's design was subordinate to the functional requirements of the production flow. At this stage, the majority of work was done so that the chassis was stationary and teams of people would move from one car to the next doing their tasks. The first experiment with turning this around was the magneto flywheels line in April 1913, where products were moving from one station to the next and people were made stationary doing one single repetitive task like putting a screw into a socket. The next step would be screwing the screw into the socket (Figure 7-4).

*Figure 7-4. Magneto Assembly Line at the Highland Park Plant in 1913. "Ford's transition to moving assembly lines began in April 1913 with the integrated (and complex) flywheel/magneto. With each worker assigned to complete a few specific tasks rather than build the entire unit, Ford reduced magneto assembly time from about 15 minutes to 5, and the required workforce decreased from 29 to 14"<sup>1</sup> ©Anonymous, courtesy of The Henry Ford.*

*"An older idea, the division of labour, is applied with a ruthless precision as every stage in the assembly process is organized around the logic of the moving line." (Hoffman in Daskalakis ed. 2001: 44) This process made the work serial, repeatable and the product standardized, of better quality and produced faster. This revolutionized the assembly of a car like nothing before: mass production was born. So incredible was the jump of efficiency that by the end of 1914 (in a mere year and a half) Ford's engineers transformed the entire Highland Park into various assembly lines and flows of production processes culminating in the central chassis assembly (Figure 7-5). Here the chassis travelled at a routine pace and the mass of unskilled workers added their atomic contributions to the final product; the famous Model T, rolling out at the far end of Highland Park. Little know-how was needed to achieve the task adequately.*

<sup>1</sup> <http://www.caranddriver.com/features/fords-assembly-line-turns-100-how-it-really-put-the-world-on-wheels-feature>, accessed on March 2013.

*Figure 7-5. Ford Model T Assembly Line at the Highland Park Plant, 1914. "Chassis construction was the final step in Ford's transition from static to moving assembly. This 1914 photo shows in-progress chassis on the line. The moving lines cut the Model T's final assembly time in half, from 12 hours to six. Continual adjustments and refinements kept reducing final assembly time until nearly four more hours were saved."<sup>2</sup> © Anonymous, Courtesy of The Henry Ford.*

The production concepts pioneered in the Ford Highland Park signify the decline of the skilled worker and the rise of the unskilled labourer who is much cheaper and more efficient. In China this type of work is referred to as Process and Assembly (P&A), and as described in chapter 5 this is the main type of production in Dongguan. It is labour intensive but requires a low level of knowledge. The industrial compounds in Dongguan described in chapter 6.2 mainly employ this type of production – from plastic moulding, to assembly of toys, hair dryers, electronic switches, television sets and computers.

This is one of the most important shifts in the history of industrialization in terms of social and cultural repercussions. Here we can identify two major topics, first, the de-skilling of workers which brought about the decline of crafts and with it the decline of daily life connected to this craft. Second,

<sup>2</sup> <http://www.caranddriver.com/features/fords-assembly-line-turns-100-how-it-really-put-the-world-on-wheels-feature>, accessed on March 2013.

mass production created a flood of high quality goods and established a new social class of unskilled workers who required a different role to be played by the state, as well as new types of institutions.

### **THE CITY OF UNSKILLED WORKERS**

The enormous shift that mass production instigated in the city can be traced through the ideas of scientific management. These principles were defined by the theory of management described by Frederick Winslow Taylor in his 1919 book *The Principles of Scientific Management*. The application of the methods of scientific management at Ford is disputed by Ford and his colleagues. Sorensen, one of the lead development engineers responsible for the design of the streamlined work process, claims that "no one at Ford – not Mr. Ford, Couzens, Flanders, Wills, Pete Martin, nor I – was acquainted with the theories of the 'father of scientific management,' Frederick W. Taylor" (Sorensen 2006: 41) However, in order to outline the impact of this production shift on the topography of the city the theoretical writings of Taylor are most illustrative.

In the above passage we can see two key issues. First, the rising split between the educated managers – the white collar workers – and the non-educated unskilled blue collar workers, and second, decline of "workmen knowledge" in other words, decline of skills and crafts.

The split between white and blue collar workers represents a significant reason for the social problems of Detroit in 1950s and indeed for the decline of Detroit as a manufacturing super-city in general. This topic will be further discussed in chapter 7.2 where we describe the dispersion and fragmentation of industrial production, and exodus of producers from Detroit.

The second issue, decline of the world of craft, will be dealt with here. In the above passage an important transformation is apparent. Work and production were no longer something that is learned and passed on as knowledge. Instead, all the skills and know-how that go into manufacturing a highly technical product like a car are turned into a scientific technological process that can be analysed,

disassembled and abstracted into the most efficient and rudimentary movements. Taylor mentions that all the knowledge embedded in tradition is now taken over by the managers (engineers in Ford's case) and reduced to optimized physical movements analysed by "*thorough motion and time study, made by a competent man.*" (Taylor 1919: 24)

This specific scientific "enframing" (Heidegger 1977) of skill sheds all horizons of engagement and knowledge that the "traditional" doing and making engenders. "*This involves the gradual substitution of science for rule of thumb throughout the mechanic arts*" (Taylor 1919: 25), codifying this knowledge into an automatic repetition of movements. All the knowledge rooted in the material culture of the craftsmen that Taylor puts under the heading "rule of thumb", has been extracted and embedded into machines. Aristotelian "*techne*" that signifies making and doing as a culturally situated praxis has been replaced with a singular mechanical technique.

The dialectic between the "world of craft" and the "world of machines" has been discussed at length. This was a pertinent topic from the onset of industrial revolution when unskilled labour and machines first replaced skilled workers. This can be dated roughly from the first commercially viable power loom by Richard Roberts in 1830. Notable opposition to industrialization was gathered around the art critic John Ruskin and textile designer William Morris, founder of Arts and Crafts Movement in Britain (1860s to 1910s with influences all the way to 1930s). The philosophy of the movement was influenced by the social criticism of Ruskin. His writings represent a stark opposition to the benefits of machines for society; it was his sincere conviction "*that modern society as a whole should and could return to the preindustrial past.*" (Sennett 2008: 108) In addition loss of skills and creativity to "*mechanical toil and all the slavery of mind and body*" (Morris 1882: 213) brought about by machines was understood as synonymous to the decline of culture and the ability of society to produce genuine art and beauty.

It is hard to agree with such a passionate and emotional disregard for technology across the board. Romantic references to tradition are usually not productive (as discussed at the start of chapter 5.1). Here, referring to the "world of craft" is not about sentiment but rather about a comparative measure to gauge what is given over to technology and to see what spheres of life still remain, or are created anew. Progress in new technological innovations, and with it disappearance of certain skills is a historical fact and not the theme of this dissertation. Nor is the purpose here to challenge this process. For a more tempered and useful explanation, in *The Human Condition* (1958), Arendt distinguishes between "labour" and "work". Labour is defined as a necessity for subsistence – the biological minimum of physical existence; its product is consumed time and time again as soon as it is produced without leaving any social or cultural traces. This is put against the concept of work – a type of making that leaves behind artefacts, a consequence of socially and culturally situated praxis, involved

in making the topography of the city and the world. Labour is a repetitive task with no added value in the political and civic spheres of the city while work supports and engenders these faculties of the city, in effect constituting its topography. Phrased in this way, we soon realize that the problem is not in the technology or machine itself, but rather how it is used or abused.



In other words, the question raised is this: do machines serve the creation of a world (civic topography) or are they being used to destroy the capacity of the city to support human needs and endeavours. Thus, we can adopt the provisional hypothesis that the infrastructural ordering of the regional corridor in chapter 6.2 and the machine-like efficiency of industrial compounds are an incarnation of technology that supports and works predominantly for the benefit of economic capitalization and utility. The industrial workers (*animal laborans*) are producing labour that, while it remunerates with wages, gives them no civic capital. Therefore, we have to concede to the more pessimistic part of the rhetorical question in Arendt's passage. It seems that machines are mainly used by capital to accommodate individual gains instead of benefit the wider civic order – and that "*they and the automatic motion of their processes have begun to rule and even destroy world and things*" (ibid.). This extreme position helps to illustrate which capacities of the city are forfeited to the machines.

The world of craft had its own conduct and customs that mandated its own institutions and organizations. This produced a city topography where skilled craftsmen represented a knowledge and material culture that permeated the society and created its own worlds through special skills, language, the professional's need for tools and associations like guilds which participated in the larger civic order. Again, referring to Taylor, the scientific streamlining of the production process takes this culture of traits and constructs laboratory conditions (factories) in which singularly defined instructions for production can operate.

This creates a world that is sanitized and controlled. Machines are able only to reproduce the movement and "make" in a single way, favouring "*one method and one implement which is quicker and better than any of the rest*" (Taylor 1919: 25). However, if conditions slightly change, the

machine is incapable of adaptation whereas a skilled worker knows how to make things in many different ways under many different conditions because of his experience and know-how (Sennett 2008). Even if a shoemaker's work was fairly repetitive, and he was unlikely to be able to build ships or armour, his knowledge of leather-making made him relevant to a fairly wide spectrum of useful artefacts and his position as an artisan gave him a recognised status. The traditional order of craft creates a rich and varied world where the civic culture of the city emerges out of the differentiation and richness of individual professions and not from sanitized versions of ideal movements to which such traits and skills were demoted in an industrial regime. This level of engagement is erased from the domain of the unskilled worker (*animal laborans* for Arendt) who becomes a resource for production of labour – and by Heidegger's standards a "standing reserve". With the advent of industrial processes the craft traditions, skills, and more importantly their capacity to mediate between the natural and civic orders, become simply a means for securing wages as the principal way of operating in industrial capitalism.

Returning to Highland Park in Detroit, on the assembly line floor, all this life was forfeited to machines and thus removed from the topography of the city. Within a timespan of a year the entire process of producing Model Ts at Highland Park was converted into a giant cacophony of assembly lines - a vast body of skilled workers and knowledge was discarded overnight.

Figure 7-6. Stills from the movie "Modern Times". © Charlie Chaplin 1936.

The purging of knowledge did not only affect the workplace, it also created a void in the daily life of the unskilled worker, and consequently in the topography of the city. This did not go unnoticed even by popular culture of which *Modern Times* by Charlie Chaplin (1936) is a famous example (Figure 7-6). The void can be sensed in Taylor's text when explaining the nature of the work these new labourers engage in.

Under the old type of management success depends almost entirely upon getting the "initiative" of the workmen, and it is indeed a rare case in which this initiative is really attained. Under scientific management the "initiative" of the workmen (that is, their hard work, their good-will, and their ingenuity) is obtained with absolute uniformity and to a greater extent than is possible under the old system; and in addition to this improvement on the part of the men, the managers assume new burdens, new duties, and responsibilities never dreamed of in the past. (Taylor 1919: 36)

The uniformity hailed as the thing to desire, for the sake of the product, had the adverse effect on the topography of the city. It fundamentally transformed it, due to a flattening of meaning and urban order; there was nothing to talk about in the evenings – no conversations about how to solve a problem, no more apprentice-work and world of guilds; screwing a bolt into a socket makes for a dry conversation topic at supper.

In light of this shift, the creative energies of the unskilled workers was refocused. On one hand they were freed of mental work during working hours, and on the other hand free time started to emerge; time emancipated from any kind of commitment or responsibility. One of the answers came in the quantity and affordability of the products themselves (Figure 7-7). The onset of mass production signalled an explosion of affordable products. Mass production was copied in other automobile companies and also in other branches of industrial production, like small home appliances. A good example is the General Electric Appliance Park in Louisville Kentucky (Figure 7-8) built in 1951 with its own power plant, fire brigade and first ever computer used in a factory (Fishman 2012).

The economies of scale (driving down the cost through huge numbers of mass-produced goods), made affordable the new consumer products like cars, televisions, radios, vacuum cleaners, ovens, refrigerators etc. This in turn led to the creation of markets for such goods, best seen in advertisements which broadcast a comfortable life-style once available only to the wealthy (Figure 7-7).

*Figure 7-7. Various ads for house appliances in 1930s © public domain, accessed at [vintageadbrowser.com](http://vintageadbrowser.com) in February 2014.*

*Figure 7-8. General Electric Appliance Park in Louisville Kentucky. TOP: Aerial photo taken in 1975 © General Electric Company (GE). BOTTOM: Orthophoto of the area in 2014. © Google, May 2014*

The onset of consumerism was a reflexive response to curb the civic participatory energies and rising affluence of the working middle class. The city of merchants and craftsmen with rich and differentiated horizons of engagement had been replaced by a much more uniform urban order where topographic richness had been flattened firstly by making all the workers "*animal laborans*" and secondly by offering in return free time and the world of physical comfort. This effectively created the contemporary condition of an apolitical public, and started the emergence of concepts like public space (vis-a-vis civic space). Almost wearily, Arendt cautions about the limits of such a flattened urban order.

In order to address these hesitations it is important to understand the change in cities instigated by the proliferation of mass production, the new role of the state and the emergence of new institutions to replace and cater for the political and newly emerging social rights of the workers.

#### ***INDUSTRY AS CIVIC PRIDE***

Mass production, with its consequences for the working class, offered a completely new urban order. With its pervasiveness it decreased individual differences such as the knowledge needed to do a certain task, and shaped individuals to fit into categories such as the unskilled industry worker. We could say that "Taylorization" injected a certain uniformity into the city. This uniformity was supported by a new visual order offered by industries. The scientific ordering based on technical rationalization and geometry was transplanted into the topography of the city.

To expand on Hoffman's reasoning, institutions that were prime bearers of the urban order like schools, churches, museums were joined by a new one – the factory, whose presence in the street sequence inspired and addressed the city with a new, strict and methodical industrial facade, with its relentless rhythm of concrete frames. In other words, we could argue that cultural institutions of this

kind, along with a "legible" planning-system – such as City Beautiful in the USA (Burnham's Chicago plan) arose in parallel with industry, to make the town more legible as "civic". The new rectilinear order was therefore a source of civic pride and social, cultural and (communal) responsibility. This was a reciprocal relationship with the fact that for the first time in history, workers were able to buy the goods they were creating. The Ford workers were first amongst the worker class in Detroit to afford the Model Ts – this in turn reinforced their commitment and identification with the factory.

*Figure 7-9. Postcard: bird's eye photograph of the life in front the Highland Park plant. © Anonymous, circa 1920, courtesy of Walter P. Reuther Library, Wayne State University, accessed at [www.greenlancer.com](http://www.greenlancer.com) in May 2013.*



The world of craft was replaced by the new visual identity formed by abstracted mass produced buildings streamlined for efficiency (Figure 7-9). The civic pride of the new working class was fuelled by sheer force of repetition and scale that inspired the confidence and competence to reconcile the human with the cosmic through science and technology. At the same time, the affordable mass-made goods rolling off the assembly lines, gave reassurances to the new class that the future would only get better. Mass production opened a new door. Instantly, the world was flooded by affordable goods for the new emerging working class. One of the main virtues of this was that responsibility of

the individual towards their work was substituted by freedom from any kind of commitment to it, and that is where objects of mass production filled the gap.



This respect and self-fulfilment of traditional making has been taken away by machines, and mass produced consumer conveniences filled the gap as well as filling the time made "free" by the machines and the processes of production and labour relations. The freedom to commit to a civic order has been replaced with the world of convenience and physical well-being – a complacent condition that does not require strife.

*Figure 7-11. Manufacturing #18 Cankun Factory, Zhangzhou, Fujian Province. © Edward Burtinsky 2005.*

It is significant to compare this condition with mass production witnessed across rural-industrial China (Figure 7-11). Relating back to the positivity and "commitment" of the sorts of the workers at Detroit (Figure 7-10), they were contemporary with atomic power (and warfare), the discovery of antibiotics, space flight – "wonders of the modern age" – to which direct access came by working in factories for decent wage (via TV, affordable healthcare, shopping malls, etc.). In contrast, the Chinese workers have limited access to the "wonders of the age" (iPhones, iPads, laptops), and are therefore more like the disenfranchised factory workers of 19<sup>th</sup> century Manchester. In Chinese version of mass production city, the pride and motivation of early 20<sup>th</sup> century Detroit stemming from the workers' ability to participate in enjoyment of the products is removed. Factory owners in Shipai try to inspire belonging and commitment to boost productivity; we showed in chapter 5.3 the example of Eily Clothing Machinery and the *Shishi* dragons as a way to refer to history to entice commitment. However, it is hard to be entirely sure if that level of commitment is warranted especially when "Taylorization" and scientific ordering for the sake of efficiency and economy are as pervasive as in Burtinsky's image (Figure 7-11). "Manufacturing #18" shows a self-sufficient industrial compound where life itself becomes mechanical. Similar comparisons could be made with Foxconn city in Shenzhen – "The Forbidden City of Terry Gou" (Dean 2007). Even though in Shipai it is hard to see that level of regimentation, *The Factory Girls* (Chang 2010) describes this disconnected world as a world of fierce competition and aspirations to advance personal fortunes. It is hard to imagine commitment to the city on the same level as the one at Highland Park.

We have to concede that for a big majority of workers, regional corridors in rural-industrial China offer a place of multilateral economic exploitation rather than genuine place of long-term commitment. Possible future commitment has to be sought predominantly in local topographies (as explained in chapter 6.3). In general the commitment in China is split between the personal economic gains of everyone involved (although predominantly by the managers) and traditional references to ancestral villages and families, somewhere in the hinterland. This shows the limits of industry as a situated practice, and the limits of disembodied industrial practice witnessed today – something we heard earlier in the quote from Arendt's.

The initial enthusiasm permeating the rise of Detroit shows a potential that has sadly been lost in the later incarnations of industrial order. The reasons and consequences are discussed in chapter 7.2 as are potentials and speculations in chapters 7.3 and 8 respectively.

**DEPARTMENT STORE AS PUBLIC SPACE**

Perhaps the most controversial "institution" joining the rank-building of the new urban order can be exemplified by Hudson's department store in Detroit, where a 25-storey introverted world of curated and directed consumption offered services and experiences that befitted the new city.

*Figure 7-12. Hudson's' store organization section. © Courtesy of Time Inc.1958: 36-37.*

In Hudson's *"Detroiters can examine over 500.000 commodities and buy anything from jewelled dog collars to a baby bumblebee preserved in soya sauce and sugar."* (LIFE Magazine, 15 Dec 1958: 37) (Figure 7-13). This internal order of controlled consumption represented a public realm that required its own modern decor and etiquette. Now a Saturday outing would not just mean going to a church or a park but could also mean going to the department store to be a model consumer and to contribute to and enjoy the newfound freedom of choice in products.

*Figure 7-13. LEFT: Hudson's` store organization section, detail. © Courtesy of Time Inc. 1958: 36-37. RIGHT: Hudson's store, circa 1960. © Anonymous, accessed at Google in May 2013.*

This is one of the common denominators upon which the flattened world of mass society bases its public experience. In a traditional reading of the city, its street and public sphere were defined by richness, diversity and difference – distinguishing individuals as having the common goal of civic participation in the reconciliation of conflict. This was "Taylored" into machinery and substituted by a level of uniformity that became the basis of a new public experience. Well-being and equality have become the common denominators, as the building blocks of communal experience, instead of difference. The Hudson's department store was an intense and contained internalized world where mass consumption was an accepted behaviour through which to participate in achieving a common goal – leisure and well-being.

This is a radical departure from the life portrayed in the Qingming scroll (chapter 6.1). Hudson's represents a world concerned with topics of comfort and leisure rather than engagement with questions about the materiality of the culture, based on the individual and different experiences of blacksmiths, cartwrights, merchants, shoemakers, tailors, etc. (Figure 7-14) The Qingming scroll portrays a civic space that constitutes a city as a common ground for difference – a city involved with the understanding of a mixture of customs, practices and culture from which nothing is exempt. In this world, a market place is a lively civic locus of engaged culture where restaurants, shops, dwelling and living creates an engaged order that is the basis for a culture which celebrates difference and reconciliation. On the other hand, the Life magazine depiction of Hudson's shows how the practice of consumption and shopping turns that engaged space of difference into a flattened space of sameness – into a "public space" – a politically handicapped place for social interaction and indulgence as the most basic common denominator for equality.



*Figure 7-15. Zongkeng administrative village, Shipai: Jiajiale Department Store on the left and local market on the right echoes the comparison in Figure 7-14. © Tomaz Pipan, 2012.*

In addition to comparison with the Qingming scroll – it is worth mentioning the contemporary conditions in Shipai. The shopping mall adjacent to the informal market (Figure 7-15) (described in chapter 7.3) hints exactly at these two different orders. In short, the example shows that we can understand fragments of tradition and customs, rites and conduct as a parallel reference that is put against totalizing effect of consumption.

### **INSTITUTIONS AND FREEDOM FOR COMMITMENT (CIVIC PARTICIPATION)**

The unprecedented scale of the city enabled by the mass production, coupled with consumption, signalled a need for different types of public institutions and regulatory systems of state that would be able to support this new urban order. In part this shift has to do with the sheer amount of people participating in the new industrial cities. In this sense we see the "civic city" being forfeited to the "social city", especially since *"the larger the population in any given body politic, the more likely it will be the social rather than the political that constitutes the public realm."* (Arendt 1985: 43) The loss of freedom to directly participate in politics of the city is therefore not just a direct consequence of technological change, but also of a critical number of individuals that can meaningfully participate in a certain urban order. It is worth noting, that the village committees in China seem to be a kind of institution with adequate size that still enables this level of civic participation. It was mentioned that administrative level villages are quite small but feature a wide level of political and economic freedom. Even though the local villagers forfeit their right to participation to corrupt perpetually elected committee representatives, we should note this example is a unique form of governance that supports a civic order in a contemporary world of global capital – something that is rarely seen elsewhere.

In favour of civic practices in the West, it is worth mentioning a brief moment in history when something similar was attempted in newly developing cities in US. John Dewey was a strong supporter of the right to the city, understood as civic and political participation. *The Public and its Problems* (1927) is an important precursor to North et al.'s *Violence and Social Orders*. The concept of civic clubs was developed during the Progressive Era (end of 1890 to 1920) in order to put *"pressure on the state and other institutions [to create] democracy from below"* (Amin and Thrift 2002: 133).

These clubs were supposed to foster public deliberation, conversation and education to become model to produce politically engaged and productive citizens. However, the bottom-up organization of civic societies quickly gave way to a representative system and "professionalization" of civic rights. In addition, the interest in politics was substituted for a much more "rewarding" yet complacent consumerism. (Amin and Thrift 2002: 134)

One of the most vocal proponents of workers' civic institutions were the worker unions, which were representative institutions that negotiated (and fought politically) with industrialists. Furthermore, not all civic prowess was taken away from unskilled workers. For example, workers on the River Rouge engine assembly line, the only place in the world that Ford made engine blocks, used wildcat strikes<sup>3</sup> as well as assembly and production slowdowns as leverage in negotiations for better wages and better work conditions (Sugrue 1996). Limited, but still exclusive, know-how and occupation of key positions gave power to the workers, but only when they operated as a collective.

Craft societies gave way to the society of unskilled workers where bargaining power was expressed through solely by strong unions as representatives and by individuals' collective ability to control part of the industrial process due to their unique position. A huge amount of civic rights to the city – decisions about what to do and how to shape society – have been forfeited by individual workers. Notably, this is similar to the situation for the majority of workers in Shipai due to the *hukou* system, where migrant workers have no political (or social) right in an area outside their home village. From this standpoint, the rights of Shipai workers were never as developed as they have been in the West; even though the practice is slowly changing, the main commitment is focused towards consumerism and capitalization on one side or remnants of traditional order back in their home village. We again can refer to the village committees as to give more fruitful basis for further speculations.

How to manage this civic gap, and how to control the forfeited rights to the city is a debate that is present throughout the modern history of economic ethics. It is a debate between a state-regulated and deregulated economic system. The debate is big topic to address in a few paragraphs, but it is important to state the terms so to understand the fundamental difference between the two.

The consensual solution somewhere in the 1980s was that the economic system needed to be regulated by the state. The fundamental basis for this is Keynesian economics as defined in the 1936 book by John Maynard Keynes *The General Theory of Employment, Interest and Money*. Keynes argued that the newly formed social order needed to be governed by a socially-minded state that issued limits to capital exploitation and took care of the welfare of the workers. This meant that people needed to be protected and given institutions and means to be equal partners. A job ensures a decent level for salaries for the workers in order to keep consuming the products they make – products that give them jobs. On basis of these conditions, a social welfare state is born that takes care of the reciprocity between workers and the capital.

---

<sup>3</sup> A wildcat strike is a strike action taken by workers without the authorization of their trade union officials. This is also sometimes termed unofficial industrial action. Wikipedia, accessed on June 2013.

On the other side of this debate stands the liberal paradigm of Friedrich August Hayek, in *The Fatal Conceit*. Hayek is against regulation of economic systems and is a strong proponent of an open and unregulated market where supply and demand drive the economy. The core argument is that the economy is such a complex metabolism that management and regulation of it is virtually impossible. Regulating one segment (such as the credit interest rate by Federal Reserve in US) creates huge imbalances in the others (the 2006 housing bubble and 2008 credit crunch). Economic liberalism signalled the reign of free capital and the disintegration of welfare state. We return to this as the main topic of section 7.2.

In the remainder of this section, we focus on changes instigated by the vertically integrated economic system (explained below), a logical continuation of mass industrial organization. We investigate how pervasive the ideas of Taylorism have become, and how science and technology are employed as universal solutions to the questions of the industrial city.

### **7.1.2. From Assembly Line to Vertically Integrated Ford empire**

The unprecedented success of mass production gave way to thinking that *"the fundamental principles of scientific management are applicable to all kinds of human activities"* (Taylor 1919: 7) even other spheres of the city, like organization of life itself.

After the success of Highland Park and the introduction of mass production, Ford's next step was to integrate the production of the whole model T in one place. The River Rouge Complex in Dearborn (Figure 7-16), again developed by Kahn, was built. The 1941 *Life* article on River Rouge advertised a *"flow chart from ore to auto. A complete car can be built in 28 hours"* (Time Inc. 1940: 38). The photographic essay of the River Rouge plant was a testament to the lengths the Ford Motor Company went to streamline production. *"When it was finished, the River Rouge would be the largest, most synchronized industrial plant in the world: sixteen million square feet of floor space, ninety-three buildings, close to a hundred thousand workers, a dredged deepwater port, and the world's largest steel foundry."* (Grandin 2009: 84)

*Figure 7-16. The flow diagram of the materials and streamlined efficiency in River Rouge Plant. © Courtesy of Time Inc. 1940: 38.*

This narrated and orchestrated industrial perfection requires certain preconditions that bring about a more flattened topography than anything described so far. At its completion, and still today, the River Rouge factory grounds measure 2.4 km by 1.6 km - a staggering 384 hectares - the size of a small village or a town (Figure 7-17). In the 1930s the factory employed over 100,000 workers. This whole area was dedicated entirely and exclusively to industrial production. No housing, dwelling, parks, post offices, shops – essentially no urban life; just the pure land capitalization of one individual for the purpose of economic efficiency. Comparing this flattened topography to the Shipai area (Figure 7-17) is like comparing the biodiversity of the Gobi desert to the Amazon rain forest. The area has one owner and is dedicated to one program. A shocking comparison comes from the land use map of both areas (Figure 7-18) that shows just how topographically flat the area of River Rouge plant really is. The monocultural zoning plans that support only one industry and only one housing type are prevalent in Detroit, in contrast to the rich and fruitful land use and land-right policies and practices that exist in Shipai. Detroit produces one high-tech product (the car) and all the topography is exclusively geared towards that one thing while Shipai produces lots of low-tech products (garment, plastic parts, cardboard boxes, bicycle frames, etc.) dispersed among many different producers. Shipai is a much more inclusive case than single-industry areas like Rouge or the streamlined industry-housing-commerce delineated zones of Detroit. This finding is the basis for further speculations in chapter 8.

*Figure 7-17. TOP: River Rouge Plant area. BOTTOM: outline of River Rouge plant overlaid over the Shipai topography. © Google, May 2013.*

*Figure 7-18. Land use comparison between Detroit / Dearborn on the left and Shipai on the right. The land use differentiation is seriously reduced in the privately owned U.S. example whereas the plurality of land uses and ownerships remain in Shipai. Drawings are to scale. © TOP: © Southeast Michigan Council of Governments 1995, accessed at [www-personal.umich.edu](http://www-personal.umich.edu) in May 2013. BOTTOM: Guangdong Provincial Institute of Urban and Rural Planning, accessed at [baidu.com](http://baidu.com) in February 2014.*

The River Rouge plant represents a vertically integrated process of car production that the Ford Motor Company developed to perfection. However, Ford scaled up the process of scientific management to encompass the entire process, from extraction and transport of raw materials through processing, manufacturing to distribution and sales of the finished automobile. The River Rouge plant became the centre of a vertically integrated network of subsidiary assembly plants scattered all over United States, to minimize transportation costs. *"The Rouge was consecrated a "cathedral of industry," and Ford, one of the richest and most celebrated men in history, ordained the high priest of the modern age."* (Grandin 2009: 84)

*Figure 7-19. LEFT: Ford Motor Company ad for village industries in Life 1945: 17 ©Ford Motor Company. RIGHT: Fordlandia as seen today from the Amazon river. © Emerson Muzeli, 2011, accessed at [www.fordlandia.com.br](http://www.fordlandia.com.br) in February 2014.*

In addition to the network of selling/assembling plants and central hubs like River Rouge, the Ford Motor Company also managed and built village industries where skilled work was carried out (separating it from the unskilled work in industries), and rubber plantations deep in the Amazon forest – fully-fledged towns, complete with infrastructure – to provide rubber needed for the tyres (Figure 7-19). At the peak of vertical integration, the Ford Motor Company owned a vast network of plants and industrial buildings, a retail chain all over USA, a fleet of transport ships and barges, a railway system, village industries and plantation towns.

Ford applied the optimization process pervasively to the whole production network, and further to the organization of towns and colonies like Fordlandia in the Amazon, established in 1928. This was the most infamous of the plantation towns, due to its grand failure. A 1944 documentary "Amazon Awakens" by Walt Disney (a friend and supporter of Ford), proudly exclaims that *"scientific care, the watch word of the plantation, is extended to the human element too."* (Disney 1944: @ 01:36)

The scientific optimization was pervasive and applied throughout social, cultural and spatial horizons to organise both processes of production and urbanization and the daily life of workers and their families, their conduct, exercise and health (Figure 7-20), even their diet through "*scientifically balanced meals*." (Disney 1944: @ 02:36)

*Figure 7-20. Movie stills from the "Amazon Awakens" documentary © Disney, 1944.*

Within this pervasiveness of science as the measure of all things, two topics are apparent. First: the emergence of a new, scientifically redefined architecture that produces machines for living. Its main concern is physical well-being, which becomes the singular measure of quality. Architecture as a set of knowledge and practices is reduced to the engineering of comfort. Second: this mechanical architecture becomes the means to build a new society. Technology and science can turn culture into a project, and can reconstruct it. Science is hailed as the final salvation and the answer to the problem of human finitude. These two topics we explore in the following sections.

**ARCHITECTURE AND CITY AS A MACHINE**

*Figure 7-21. Aerial view of Fordlandia in the Amazon forest. © Anonymous, 1934, accessed at Google in February 2014.*

This aerial view of the Fordlandia from 1934 reveals the extent of the plantation. Zoning logic and the flow of goods clearly drove the organization. *"The plantation had extensive and comfortable employee housing, a school, a hospital with modern and sophisticated equipment, a power plant, a sanitary water supply, 30 miles of road, and a sawmill with a 25,000 board foot capacity, reportedly the largest in Brazil."* (Galey 1979: 272) The functional diagram of the plantation's operations was directly translated into the spatial organization and layout (Figure 7-21). Science had become the poster child of the new era *"a new weapon of the 20<sup>th</sup> century pioneer."* (Disney 1944: @ 03:29)

Science and scientific skill resting upon mathematization and abstraction were understood as the building blocks of a new society. Architecture, with its regimented, mathematically precise and unified expression was supposed to "educate" individuals to become productive members of society. The previously discussed orientation towards consumer goods as the basis for daily life was cultural change that enabled the use of material well-being and physical comfort to be used as measures for happiness. Traditional reasoning based on historical continuity was challenged with the scientific view which was seen objective and disconnected from any personal affection through Heideggerian "enframing" (refer to chapter 6.2).

The cumulative effects of these changes is that happiness and the "good life"; or a life that is fulfilling, can be measured by physical comfort that also represents the ultimate measure for success and quality of life. In turn, a "mechanised community" constructed in the manner of Fordlandia highlights the dichotomy between the right to physical wellbeing and the obligation to consume in order to fulfil those rights. Through the internal order of rites and norms, the world of craft had a much broader understanding of obligations and rights, as already pointed out in chapter 5.2. In the newfound freedom of consumer society, the civic obligations to community are erased, there is no more individual responsibility to the collective – nor is there any participation in the civic. These aspects are subsumed into institutions like unions, the social state and representative democracy (described in chapter 7.1.1).

It could be argued that redefining architecture as a scientific endeavour was to a certain degree a historical necessity, especially in the light of a Europe ravaged by the First World War. "Taylorization" was taken up as the means to construct a new society based on science, partially due to still vivid horrors of war. Order that talks about physical well-being is logical, measurable, non-political, objective and therefore acceptable. However, to be measured, it needs to be formatted in the correct way. This claim has been full-heartedly taken up by Le Corbusier, who "*saw Taylorism as a means of breaking with pre-war society, a key to social renewal.*" (McLeod 1983: 133) He sees in Taylorism an instrument for physical and cultural renewal based in science<sup>4</sup>.

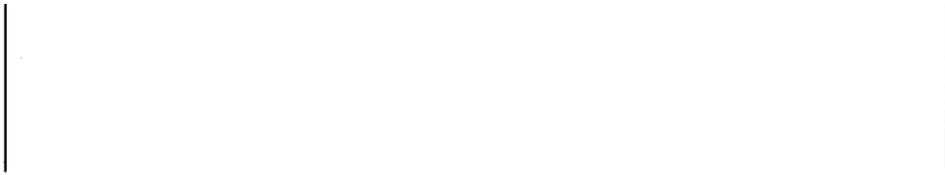
In this respect, Le Corbusier developed the "Maison Domino" one of his most famous concepts, that paved the way for modernist architecture (Figure 7-22). Initially, Domino was meant as an answer to housing shortage and was an idea for a mass production system carried out in sequence, methodically,

<sup>4</sup> This reading of Le Corbusier is omitting a vast body of work that should be understood within the work *Le poème de l'angle droit*, 1955. This series of drawings / diagrams and accompanied writings representing Le Corbusier's most profound attempts to give meaning to his architecture. Perhaps Le Corbusier was one of the last architects, who based his work on a kind of cosmology – one of many attempts by modern artists to reinterpret the humanist inheritance as myths appropriate for the new historical conditions. In this sense we could also adduce Hannes Mayer as the most serious proponent of the purely functionalist architecture.

mechanically with great efficiency. It allowed units to be placed in rows and stacked up. It featured the bare minimum that a dwelling needs. (Le Corbusier and Jeanneret 1964)

*Figure 7-22. Maison Domino: TOP: the basic principle, BOTTOM: sketch of its implementation. © Le Corbusier, courtesy of Fondation Le Corbusier, accessed at [www.fondationlecorbusier.fr](http://www.fondationlecorbusier.fr) in February 2014.*

Consequentially Domino became a blueprint for a modern expression of architecture. The bare minimum of floor plates and columns is hailed as liberation of architecture from the constraints of tradition and history. Even though it solved the technical problem of housing, it set a standard for an austere vision of the house as a tool-machine for dwelling, eradicating any continuity with tradition and the past, or any additional meanings of architecture, other than that of technology. Providing for physical comfort had become a new definition of architectural expression and measure of modern man.



*Figure 7-23. TOP: aerial view of the "Blumenlägerfeld" housing project in Celle, Germany. BOTTOM: a plan drawing of two living units. © Otto Haesler, 1931, courtesy of Celle city archives. BauNetzWoche 2010: 10.*

The crystallisation of these ideas was represented in the modern architectural schools all over Europe. In Germany, also due to the need to rebuild after the First World War, The New Objectivity movement emerged, whose *"Fordist task posed was the development of optimally efficient standards and the Taylorization of modern living."* (ibid: 51) This put architecture on to a scientific basis where objectification through rational mathematical understanding of, for example, maximal spans, good ventilation, minimal sun exposure, minimum dwelling areas, floor heights, etc., were the leading concepts of measure and reason (Figure 7-23).

The technically objective approach was embraced to create historically emptied vessels on the basis of which a new world order could be built. Architecture with its new expression had become the visual embodiment of a new society. As such, it contributed to the construction of culture as a project.

### **CULTURE AS A PROJECT**

If in Europe, Taylorization had a political connotation, in the USA it was mainly about boosting production efficiency. Henry Ford's obsession with control was notorious, he believed every aspect of the worker's life should be carefully organized and prepared. Fordlandia was a laboratory where this new culture was introduced to native Brazilian culture as project based on rational thought, to boost morale and productivity, and at the same time, educate people in correct attitudes and etiquette (Figure 7-24). Ford organized educational and cultural events like square dances in Fordlandia as well as in the USA. His "invitations" were more like subtle commands *"to attend, and they [employees] did their best to manoeuvre through waltzes, polkas, minuets, square dances, as well as the quadrille and the ripple."* (Grandin 2009: 263)

*Figure 7-24. Fordlandia cinema and dancing theatre, 1931. © Anonymous, courtesy of the Henry Ford.*

Just as the assembly line – the traditional dances, so perfect and meticulously organized, represent methodical mathematical order to fabricate a culture. Ford's attempts to approach social and cultural life as industrial processes is quite extreme. However, even in Detroit, the city that prided itself on advancements and progress, the new society born out of mass production and scientific management employed art and architecture to construct its new culture.

Turning to art, the "Detroit Industry Murals" are a series of frescos painted by Diego Rivera (1886 – 1957) for the Detroit Institute of Art in 1932 (Figure 7-25) commissioned by Edsel Ford; son of Henry Ford and at that time president of the Detroit Arts Commission.

In short, the artwork encompasses the whole room; each wall represents a different topic, usually in dialectic reciprocity to the opposite wall. The general theme is the depiction of the triangle of nature, man and machine. The frescoes glorify technology and mass production but also have moments that caution against blind faith in technology. Rivera painted the murals on the basis of his visits to the River Rouge complex, where he was deeply inspired by its assembly lines, steel forges and the might of the industrial process. People like Henry and Edsel Ford are prominently featured and are part of the story about construction of a new bright future on the basis of technological innovation, where industry becomes the receptacle for civic pride and the overarching identity of the city. Here, we find a curious inversion with the traditional world of craft. Glorification of technology and science creates the new cultural environment; it literally constructs it – as opposed to the world of craft, where culture was a product of continual making and doing, or even earlier, when life was a cycle of renewal, and order was constructed on the basis of, for example, religion. In this respect, a small section of north wall of Rivera's mural is telling.

It shows the vaccination of a child and is depicted with clear reference to Christian iconography of the nativity (Figure 7-26). However, the atheist and socialist Rivera depicts the act of vaccination as the birth of the child into the contemporary world of science and technology. The nurse takes the role of Mary, a doctor that of Joseph (Wilhelm Valentiner the director of DIA) and scientists performing chemical and pharmaceutical experiments are represented as the Three Wise Men bearing "gifts" in the form of scientific knowledge. The air of science and technology permeates the mural just as the air of holiness and God permeates the traditional Christian depictions. Science is portrayed as human salvation from our own finitude and the answer to nature of our existence.

Figure 7-25. The north wall of Diego Rivera's murals with its main depiction of the assembly line and the foundry. Detroit Institute of Art, 1932. © Diego Rivera 1932.

Figure 7-26. Different incarnations of Nativity of Jesus. LEFT: "Adoration of the Shepherds" by Gerard van Honthorst, 1622. MIDDLE: Christ Icon, 17th century orthodox monastery, Barkalabovskogo, Russia. RIGHT: Vaccination of a child, Diego Rivera 1932.

### **7.1.3. Conclusion: Integrated Industrial Production**

In this section of Part C we examined the consequences of mass production on the way the city is conceptualised. First, we looked at how mass production came about at Ford's Highland Park factory. Then we continued by looking at how the ideas of Scientific Managing spread into other spheres of life, examining the River Rouge factory and the vertically integrated management of industry led us to consider repercussions in architecture, art and the city.

#### ***CAPACITY (FREEDOM) FOR COMMITMENT, ROLE OF INSTITUTIONS***

The age of assembly lines and mass production shaped a new order based on technology and progress, where affluent unskilled workers became a predominant working class. This brought about an urban life that focused on consumerism, which brought with it new types of urban institutions to curb the excesses of capitalism, and instil civic pride and belonging in the population. The industrial factory was a personification of the workers' effort and the department store was a new way to refer to the city through consumption; both representative architectural contributions to the topography of the new city. This new-found urban life had repercussions on the understanding of freedom for commitment. Consumerism and equality through well-being were the basis of the new city order, characterized as a move from "civic" to "social" as framed by Arendt.

A brief social experiment in the 1920s in the form of the "Progressive Era" represents an attempt to recover a civic city, and marks a definitive departure from the politically engaged city to a world in debt to well-being and consumerism. The reasons for this move are attributed both to loss of know-how to machines, to the sheer amount of disengaged individuals participating in the new city. The new working class required also new types of political institutions. Unions and social clubs at city level and representative democracy and the welfare state at national level became the main components of this new order. As noted by Arendt and Amin and Thrift, this demonstrates the dominance of the social over the civic city. In terms of new city institutions, free-time clubs and associations retain a sense of community yet have mainly recreational and fraternal functions. Civic space became public space – a politically handicapped place for indulgence and social interaction.

#### ***ROLE OF ARCHITECTURE AND INDUSTRY***

The ideas of Scientific Management were transferred into architecture through the character and physical expression of factories. Its concepts were wholeheartedly taken up by architects like Le Corbusier, as an alternative means of making architecture through the physical qualities of the building rather than tradition, which was considered destroyed by "modern" conditions and plagued

by war. For Le Corbusier, Taylorism represented an important role for shaping the new ethical standards of the emerging city culture. It also represented an efficient way to provide high standards for mass produced housing in a time of shortage. Architecture had become a machine for living and production, as traditional references were suppressed, reinterpreted or treated ironically. Engineering specifications and physical comfort represented the reasoning of science, and became the general basis to judge good architecture. In turn, architecture became a receptacle for commitment to the new world order.

Architectural appearance of industry in places like Detroit reverberated a new visual expression. The streamlined structures of Albert Kahn were the focus of urban pride for unskilled workers, as their means of communication with the new consumer culture. They were prominent elements within new industrial cities providing work and instilling confidence to a new social class. This level of commitment by workers and the civic capacity of industrial architecture is not observable either in the first industrial cycle or in contemporary P&A factories in China and as a result the factory-design in the industrial corridors of Shipai is quite utilitarian.

The ideas suggested by the new visual style of architecture were even more openly rendered by art. The commission of Diego Rivera for the "Detroit Industry Murals" by Edsel Ford is an example of how art became a means to contribute to the construction of this new topography. Its praise of science and technological development portrayed a collaboration of technocrats and workers as finally mastering their own destiny.

## 7.2. Dispersed Industrial Production

Scientific Management and the invention of the assembly line brought about an explosion of new types of goods and transformed the idea of the city. Detroit gave birth to a new industrial, consumer-orientated city, based on unskilled labour, supported by unions and rooted in Keynesian economics through the welfare state. It became a model example of affluent American middle class living. A new tripartite civic metabolism emerged, balanced between industrialists (market), unions and the state. Detroit had the most socially orientated policies, featured a comprehensive school program and a well-defined social care system. Although mass production and machines took away the perhaps richer life of the craft society, unions (especially the United Automobile Workers – UAW) and workers could participate in aspirations by fighting for their right to be "middle class". The civic right to the city was traded for the world of well-being and mass produced commodities. The "good life" replaced participation in politics and discussion. Civic space gave way to social space.

Here marks the departure of direct comparison between Detroit and Shipai, as we move past the era of mass production and P&A industries and enter the realm of speculation about Shipai, through an examination of what happened to Detroit after the decline of the mass production city. This chapter of Part C is less comparative than the previous but will raise critical themes for the conclusion.

The reasons for Detroit's decline are complex and varied, and even today not entirely resolved. There were three main contributors to its demise. First, automation – a further technological advancement of the industrial process, second, decentralization – incentives for free capital to find cheaper locations for production, and third, innovation – a fuel for progress and prosperity that the Detroit automobile industry was slow to recognise.

### 7.2.1. Decline of Detroit

#### ***AUTOMATION***

By the mid-1950s, automation has begun to take hold, and automobile companies started to streamline the industrial process. At Ford a new "Automation Department" reorganised manufacturing processes (Sugrue 1996: 130) as machines were able to replicate ever more sophisticated tasks (Figure 7-27).

*Figure 7-27. "MILLING MACHINE WITH A MIND OF ITS OWN. [...] With conventional machinery five men (top left)- toolmaker, product designer, tool designer, set-up man and machine operator - produced four units a day. The machine requires nine men and produces twelve units a day, sharply increasing output per man (top right)." © Time Inc. 1959: 32*

River Rouge was retooled and modernized in 1950. The production of engine blocks was decentralized to two new plants – Dearborn and Cleveland (Figure 7-28). The workforce was slashed from 980 to 120 employees who were able to produce the same amount of engine blocks as Rouge had done. By 1954 Ford had moved all engine production to Cleveland, where the non-unionized plant workers' wage was reduced by 20 pennies per hour. (Sugrue 1996 ad lib.). Automation allowed bosses to retake control over the production process from workers and unions, as well as increasing profits.

*Figure 7-28. Cleveland Engine Plant. LEFT: new automated assembly line in 1952 © Anonymous, accessed at [www.at.ford.com](http://www.at.ford.com) in March 2014. MIDDLE: Aerial drawing view of the plant no 2 where automation is controlled through the electronic switching board (RIGHT). Circa 1951. © Anonymous,, curtsey of The Henry Ford.*

Automation decreased both the number of workers and the number of jobs in car production. Workers were no longer unskilled hands but engineers and designers, evident from the description in Figure 7-27. Uneducated, unskilled workers were left permanently unemployed. Unions, especially the UAW, fought hard to retain jobs and working privileges, but industrialists were able to relocate production to non-unionized cities during retooling (Figure 7-30). The consequences in Detroit, especially in the River Rouge plant where more than 80% of workers were members of the UAW, were catastrophic. *“Between 1948 and 1967, Detroit lost nearly 130,000 manufacturing jobs.”* (Sugrue 1996: 143)

Automation was portrayed by politicians and industrialists as the next step in the development of cities, liberating workers from tedious labour, as it *“produces even more leisure, more and better goods. It dignifies labor by wiping out drudgery.”* (Time Inc. 1959: 36) (Figure 7-29).

*Figure 7-29. "A RELIEF FROM DRUDGERY IN BANKS. The \$217,400 Visual Record Computer [...] does work of 31 bank clerks. [...] VRC automatically reads, sorts, records 15,000 checks a day- about the number drawn on a middle-sized bank" © Life Inc. 1952: 37.*

Automation did give more free time, better and cheaper products, but it also took jobs and employment. It also redistributed the political capacity; removing power from the workers by taking away their leverage, or leaving them permanently unemployed. Unskilled workers lost their jobs, income and ability to participate in consumer society – the only type of participation left. The decline of production in Detroit meant less tax for the maintenance of civil and social services. This strained Keynesian-base economics and the welfare system in the city and started the social crisis that Detroit struggles with to this day.

### **DECENTRALIZATION**

Decentralization, however, was not purely economic. Political and social reforms connected to the mobility of workers also played an important role. The economic decline of Detroit was the result of dispersion of production into rural areas but decentralization also encompassed housing policies, infrastructural public works and fundamental life-style changes as a result of the political reforms of

"The New Deal" initiative introduced by President Roosevelt (1933 – 1938). Decentralization was the beginning of the suburban landscape so characteristic in the modern United States.

This gave capital political grounds to regain power in Detroit. It became a resource to be "streamlined". Draining of work from Detroit was met by fierce opposition by local unions (Figure 7-30). New Deal policies sometimes had negative effects, especially for established industrial cities. They promoted labour unions, but at the same time development and urbanization of rural areas. Managers' and owners' interest in profit dictated finding areas with a less unionized workforce; usually in newly developing rural areas that had become much more accessible due to New Deal urban expansion policies such as federal highway infrastructure. Legislation that was supposed to protect the workers did not foresee such a fast response from capital – individual interests of elites were always quicker than the organization of unions in new areas.

*Figure 7-30. Draining of work from Detroit was met by fierce opposition by local unions. Ford workers gather outside of the UAW / Ford organizing headquarters, possibly during the 1941 strike, Detroit, Michigan. © Anonymous, 1941, courtesy of reuther.wayne.edu accessed in November 2013.*

An additional condition that contributed to the spatial dispersion of production was that mass production itself generated a highly mobile workforce. It is ironic that its most successful product

started the process of emptying Detroit. Mass production of cars allowed more than 70% of workforce to commute (Sugrue 1996) and new industrial areas had car parks for the workers. New Deal policies supported a real-estate boom of private housing in the suburbs through good mortgage rates, favourable land prices and subsidies and through federal infrastructural projects – with a massive national program of highway and expressway construction. Improved transport infrastructure and breakthroughs in the mid-1950s in containerization of freight, by Malcom McLean (Figure 7-31), also lowered transport costs meaning decentralization of production was practical for manufacturers. Affluent people began to move to the suburbs and city cores were emptied, especially in places like Detroit.

*Figure 7-31. LEFT: First Containership, Ideal-X, 1956. © Anonymous, accessed at Google in May 2014. MIDDLE: Malcom McLean at railing, Port Newark, 1957 © Anonymous, accessed at Wikipedia in March 2014. RIGHT: First container system on trucks. A pair of McLean Trucking Co. GMC's at the Ft. Lee diner in 1955. © John Mason, courtesy of Fred Gruin Jr. Collection, accessed at hankstruckpictures.com in May 2014.*

### **DISCARDED DETROIT**

Within the reasons for decline outlined above, it is curious to observe the lack of ethical hindrances of the automobile companies, in terms of their responsibility and civic duty to the city they created. The culture of a city built on automobile production and goods consumption can be destroyed as easily as it is created. Huge factories and the technological ability can be mistaken for social and cultural stability.



The dispersal of industrial plants did not facilitate the continuation of a culture based on newfound civic prowess for workers, rather was a deliberate break with continuity in order to facilitate ever bigger profits. Technology satisfied the appetites of the industrialists while culture-building was a political instrument to manage the masses. Yet workers had started to identify with the new mechanistic city as described in chapter 7.1.1. For them it represented civic pride and proof of their

personal success and civic power. It is difficult to reconcile this with the beneficiary work of Edsel Ford, such as Diego Rivera's murals for the Detroit Institute of Arts. We can only conclude at this point that the personification of the worker class with the new technological expression was sadly misplaced. Is this what is to become of Dongguan, and more specifically Shipai, as hinted at in previous chapter?

In terms of production, the spatial decentralization of industry triggered even stronger vertical integration of companies. Through automation, Ford, General Motors and Chrysler (the Big Three) subsumed smaller producers that had filled the niches in car production, such as the production of stamped car body parts. (Sugrue 1996: 136)

The only way to survive was to constantly adapt to changes and to obtain the know-how for a particular industry. This indicates the underlying shift in which continuous economic gain is not delivered by a strong production base – that can be obtained anywhere. Survival is dependent on accumulation of know-how at managerial and professional – engineering and research – levels. These represent the capital for a dawning era and the third reason for Detroit's decline.

### **INNOVATION**

The third reason for the decline of Detroit was a decline of cutting edge innovation in the automobile industry. After the invention of mass production and the assembly line, there were no further major breakthroughs in innovation. Due to its hermetic development the automobile industry reached its limits and lost the leading position in technological innovation it had during the 20s and 30s. In addition it had a very low capacity to integrate products of new innovative fields like electronics and aviation. Business as usual does not warrant big wages, and it is subject to stronger market forces and competition.

After the Second World War, Detroit relied on car manufacture and reverted the production of aircrafts and tanks back to personal automobiles. It was a widespread belief among car manufacturing elites that mass culture and the automobile would continue to represent the highest amount of spending in the US. However the result was just the opposite. The oil crisis in the 1970s and competition from Japanese car producers like Toyota and Honda, who gained a significant share of the US market, demonstrated that the narrow focus on one industry proved to be a strategic mistake. Detroit failed to attract manufacturers of new high technologies such as aircraft and electronics (Sugrue 1996: 141). The monopoly of the three big automobile conglomerates also stifled innovation. The new type of research needed for the high-technology sectors was more sophisticated and required an educated workforce connected to research institutions and universities, against which places like

Ford's internal development department just could not compete. Detroit, with its unskilled labour force and basic education did not have a prominent university that could compete with the likes of MIT, Stanford or Harvard. Thus, "95% of government funding" went to the "Sun Belt", where "California was the major beneficiary of defense spending." (Sugure 1996: 140) A more recent example is the coupling of Stanford and Silicon Valley which also drastically shifted the balance of economic and political power.

### **CONCLUSION: DECLINE OF DETROIT**

Due to a narrow bet on car industry, Detroit became a city emptied of educated individuals and knowledge, where workers participated in newfound freedoms offered solely by culture of technology based on industrial mass production and consumption. As soon as automation and dispersion took the unionized work away, the city failed. But will something similar happen in Shipai? There too, the majority of workers are unskilled and employed in P&A industries. As China grows economically, so the affluence of the workers rises. How will it cope with "dispersion" of industries to more favourable areas of the globe, such as India? In China too, the investors (foreign companies) have no civic responsibility to the topography. However as described in chapter 6.3 there exists a fragmented, but persistent world of aspirations, in village communities and individual migrant industrialists that offers a more rich and varied political and economic landscape than existed in Detroit. In addition, local elites are bound by *hukou* to their village and hence need to exercise a modicum of civic responsibility. This is a radically different topography, and offers more promise than Detroit, where three big automobile manufacturers ran the whole city.

In Detroit there were no incentives for capital or educated white collar workers to stay. Loss of production and affluent workforce to the suburbs left only unskilled workers, predominantly black, who become permanently unemployable due to poor education. Neither unions nor federal government policies were responsive or willing enough to stop the relocation of industrial work. The unrest that followed, and the social problems Detroit faced (Figure 7-32), have lasting consequences that persist to this day.

Here we have to acknowledge yet another grossly misrepresented reason for decline, that of racial segregation and division of labour. Firstly, the white collar work was mainly reserved for established and educated white male population, whose affluence due to modernization and automation rose drastically, while the non-educated blue collar worker's positions (mainly occupied by black males) rapidly declined and deteriorated.

---

In addition, the racial segregation had thorough and long-lasting consequences. For example, with the Marshall plan, the economically privileged white class was able to afford suburban life style and migration to new urban and work opportunities. However, the black working class majority in Detroit was denied these privileges through a series of discrimination practices. For example, black workers would not be given favourable housing bank loans for real estate and were therefore not able to buy a suburban house which became a privilege reserved for the white population. Or due to lower paid wages, the blacks were forced to live in social housing and were therefore unable to partake in social upward mobility that was painted as a general trend in the post world war II in the US.

These practices combined with worsening social conditions such as health security and quality of public schools in Detroit, produced an uneducated and disenfranchised black underclass that, due to bad conditions and prospects, could not leave the deteriorating city. The racial segregation, real estate and economic segregation is a vast topic and too extensive to be part of this thesis. However, within the context of USA's industrial history the racial conflict is of utmost importance to understand the current unreconciled social problems.

In reference to China, we could draw some parallels with the conflict between migrant workers and local population in China that rests upon *Hukou* rights. This might be considered as a kind of

segregation, however not reciprocal to the black-white segregation in 50s and 60s US. Therefore, it would be hard to use the conclusion of one to speculate about the possibilities of the other.

*Figure 7-32. Race Riots in Detroit, as whites ban coloured from new homes in U.S. housing unit. The loss of work and dispersion of affluent educated class had a profound effect on racial conflicts. ©Times Inc. 1942: 40-41.*

In this cycle of industrial rise and decline there are three main features present to this day in Detroit. First is the spatial decentralization and constant adaptation of production towards bigger profits, second is a shift from an economy of production to a knowledge economy, and third is the subsequent dismantling of the Keynesian economic system and welfare state partly responsible for the economic segregation on basis of the race.



All the descriptions and cases insofar describe constant change in technology and replacement of cities with new archetypes. From a traditional culture based on natural cycles, to craft societies, to a culture of unskilled workers now replaced by a "knowledge society" (Komminos 2008). Within the knowledge economy the new right to civic participation is not based on physical labour but ownership of capital and perpetual innovation, adaptation and flexibility.

This was a radical shift in the development of cities and in understanding what constitutes political power. With advances in technology and a constant need to adapt and change, the power of unskilled workers and their city has passed into oblivion, and with it, civic participation. This unreconciled past represents a big part of our contemporary tradition. The worker's city was replaced with a new one, where associations and participation are measured through innovation and economic flows. This marks the age of Post-Fordism.

### 7.2.2. Post-Fordism

The onset of neo-liberal, Post-Fordist ideas in the 1970s and 1980s went hand in hand with changes in industrial production, society and culture. The Keynesian economic system has been thoroughly defeated in a world of plurality of ideas and products. This plurality exists in all spheres of culture, from science to politics, research and practice. Here, we explore recent innovations in the technology of industrialization and connected changes to the topography of the city. The city of unskilled worker has given way to the city of free association and entrepreneurial life.

The knowledge economy is only one of the paths through which we can follow the development of neo-liberalism – any number of tertiary sector industries could be examined that show this major shift in the organization of the city including banking, tourism, art or education. However, since one of the main reasons for Detroit's decline was lack of innovation, here we focus on the development of the knowledge economy based on development of new high added-value products. That said, Fordist production and ideas have not completely disappeared. Quite the contrary, as is apparent in the next chapter, mass production and flexible specialization are complementary processes – their co-existence is outlined by Piore and Sabel (1989: 252), although Shipai represents a topography exclusively dedicated to mass production.

#### **INNOVATION ENVIRONMENT**

The earliest example of an economy based on knowledge started to develop as early as the 1950s in connection to the cold war industry and state funding in the US, when a high-tech research and knowledge driven research centre at Stanford Industrial Park in Palo Alto was opened. This was a precursor to what has become Silicon Valley and was the deliberate creation of a place that “*drew on technological breakthroughs achieved (often under military sponsorship) in university laboratories*” (Piore and Sabel: 286).

High-tech firms were chosen and given good conditions for development and research. First tenants in 1951 were Stanford students, the Varian brothers (Figure 7-33), who started Varian Associates at that time researching and designing crucial components of “*radar and microwave communication technology that played such a large role in World War II and beyond.*” (Stanford Research Park Guide<sup>1</sup>: 6)

<sup>1</sup> Stanford Research Park self-guide, Stanford University, accessed online at <http://lbre.stanford.edu/realestate/tour> on October 2013.

---

*Figure 7-33. LEFT: Sigurd Varian, Russell Varian, David Webster, John Woodyard, and William Hansen inspecting the first klystron amplifier © Anonymous, courtesy of Stanford News Service. MIDDLE: Varian Associates first offices and research labs in 1953 when the Stanford park opened. The research office was built as a school if the venture failed. © Anonymous, accessed at paloaltohistory.com in May 2014. RIGHT: Russell and Sigurd Varian with the V-42 klystron used in ultra high-frequency (UHF) television transmission, circa 1953 © Ansel Adams, accessed at www.cpii.com in May 2014.*

The contrast with standard industrial production is obvious. The emphasis is no longer on mass production but rather on the scientific knowledge and know-how embedded in the innovation process that translates into the high added-value products. The development and intellectual property (IP) of the product surpasses its production value. The actual production is usually outsourced to dislocated regions where workforce is cheaper (in contemporary times mainly to China). This can also be seen as a template for later models of multinationals like Apple, Samsung, Nokia, etc.

The physical infrastructure of such environment was also very different from engineering-labs of Ford or Grumman Aircraft. The prototypes for this type of industrial facility were developed during the war, during atomic research at Oak Ridge and Los Alamos where whole communities of scientists and technicians with their families would occupy a highly controlled, research orientated topography with high-specification laboratories, for discussion, entertainment, etc. Security was a central issue, as it was for the idea-factories in Palo Alto. A new type of industry had started to emerge where companies like Bell Labs and IBM produced patents as often as products themselves. Initially, the client was the US military; but continued success came from commercialization of the research by developing ever-new products and patenting them.

The products are highly specialized, the development and innovation does not come from the continual renewal of one process (like upgrading a car), but from major breakthroughs and intellectual property, safeguarded by the patent law. Innovation is not a product that can be rolled out of an assembly line every minute or so, but is a practice of research dedication. However, its unprecedented revenue can only be achieved with mass production of goods that employ these new patented technologies, which assures greater revenue to the holder of the IP rights rather than production.

Within years, Stanford industrial park became a role model where companies like Hewlett Packard, Lockheed Martin and later Yahoo and Intel rose to prominence. This paradigm shift favours small firms built up by individuals that require venture capital to push forward and research ideas.

This type of environment is a high risk development and needs a myriad of small production and innovation firms trying to come up with the next big invention. Some succeed, the majority do not. This means that the background – connections, funds, and management infrastructure needs to be provided by the innovation environment itself. Komninos (2002) describes an array of services and external support needed for such an environment to succeed, from large industrial complexes to innovation support programmes, high-tech education, business services and venture capital funds. (Komninos 2002: 29)

In this kind of environment, big, individual firms are no longer significant, but instead what Porter (1998) would call clusters; groups of small firms that compete in a stimulating environment. (Piore and Sabel 1984: 287) At the same time they support each other with different knowledge know-how and in an exchange of skilled workers when one company fails and another starts up, or when one company succeeds spectacularly, like for example Apple, and absorbs local talent. This type of environment creates its own internal topography, where success is measured through the intellectual property of individual companies. This in turn stems from the research and academic traditions of the connected universities.

Comparing this type of topography with Detroit, based on mass production, or with a traditional city of craftsmen and artisans, there is a progression from embodiment to articulation; from making to thinking. What brings about the biggest return (and therefore also the biggest prosperity) is no longer production and making of things, but innovation and thinking combined with good management, networking and communication.

The consequences of this are further explored in chapter 8 where these concepts are applied to the Dongguan Eco-Industrial Park. Lack of local knowledge is one of the main problems for the area and the PRD strategic plan 2008-2020 has serious flaws when it comes to assuring this vital component. Even though we can observe a cluster-type organization in the PRD, the lack of local innovation is a serious impediment to future development (for further details see 5.1.3). Lately Shenzhen is emerging not exactly as a knowledge-based economy, but as a new type of practice-based knowledge economy, where ideas can be put into prototype products and tested on market in a matter of a week. (Whitwell 2014)

## **ECONOMY OF FLOWS**

The innovation environment as witnessed in Silicon Valley rekindled the idea of new regionalism where localization brings about knowledge spill-overs and favourable resource sharing (Marshall 1890, Porter 1998, Komninos 2002). This kind of environment creates an ever changing landscape of innovation. The specialization of firms opens up horizons for infinite business possibilities through constant negotiation and collaboration. Projects are no longer developed by a single company but depend on collaboration between many partners, with different capabilities and know-how; each specializing in one segment of research, innovation or production.

This networked approach to production holds true for small businesses and the innovation industry, and also for physically decentralized, vertically organized companies like Ford. The decentralization and abandonment of integrated, linear production from ore to car at River Rouge made the production system more flexible and able to accommodate change. However this shift from linear organization to a network of elements signalled the rising importance of the management of production flows and resource allocation. For economists and social scientists in the 1970s dispersal of "*industry to remote regions and non-metropolitan areas was now seen as economically desirable.*" (Amin and Thrift 2002: 54)

In this new globalised world of constant change, in a disassociated network of elements, the only stable references are flows of capital and goods. This paradigm shift is described by Manuel Castells as "the space of flows", where the culture of production and consumption "*can be reduced to knowledge generation and information flows.*" (Castells 2000: 409) The new affluent class no longer produces physical things but manages ideas.

With the possibility of migrating actual production to cheaper areas, the newly establishing (first) world sheds itself of industrial production in the city. The traditional compact city is in decline and is just one of the poles within the new network structure (Sieverts 2003). The international mesh of flows and management turns territory into a field of agents, bound together by networks that are loosely connected, but based purely on the flow of information and the logic of free capital association and economics. "*The knowledge capitalism has become a mantra. Its gurus predict the weightless economy based on intangible goods and informatics*" (Amin and Thrift 2002: 58).

The emerging landscape is no longer rigidly designated and explicitly defined, rather is an assemblage of "*vast number of highly particular global circuits*" (Sassen 2012: 111) that come together to form networks and affiliations that are of different intensities and time spans. This mandates a loose organization of uncertainty where everything is in flux and constantly changing. These economic

concepts have been adopted by politics, design and architecture, signalling a radical change in thinking about and understanding of the city that also brings with it a particular architectural expression.

### **FLAWS AND NETWORKS IN ARCHITECTURE**

In world that is defined by constant change, traditional architectural elements like the house, church or street were deemed incapable of dealing with the new condition of economic complexity. As the concrete world of everyday life, rooted in making and doing was slowly disappearing, it was replaced by an ever more abstracted world of economy where the only measures of success are economic indicators. Indeed, social theories of communication like those of Habermas emphasised the most articulate dimensions of experience, as if people did not need their bodies, architecture or the city. When the city is liberated of service to physical making and doing, systemic thinking about flows and economy can be extended from the organization of industrial production to organization of an entire territory. where *"cities become spaces of flow and mixture, promiscuous 'meshworks' (DeLanda 1997) and hierarchies of different relations [...] they are therefore best described in terms of a language of forces, densities, intensities, potentialities, virtualities."* (Amin and Thrift 81)

Where previously the city was understood as a series of architectural elements, now the change and fluidity of urban space in response to global networked flows had also to be theoretically accommodated. New paradigms emerged, to understand this dispersed "in flux" environment. The vocabulary moved away from that of buildings, squares and streets; *"from forms of urban space to processes of urbanization, processes that network across vast regional – if not global – surfaces."* (Wall in Corner ed.: 1999: 234)

Stan Allen says that these kinds of approaches are *"working concepts derived from experimentation in contact with the real."* (Allen 1999: 92) However, the language is as ephemeral as the flows themselves – even though there is a reference to the "real" there is no concrete engagement with the reality of everyday life, it is purely a mental exercise in a virtual world, represented by production capacity and targets. The emphasis is on the horizontality of the network – of its inexhaustible permutations and variations - qualities which instil within it inevitable success.



Maybe the most extreme examples can be described by theoretical projects of Archizoom's "No-Stop-City" or Super Studio's "The Continuous Monument". No-Stop City (Figure 7-34) represents a

universal formatting of a territory by a grid system into generic and infinite expanse of space. We could argue that it attempts to abolish any connections to tradition, meaning or memory and to construct anew a levelled and internalized playing field, subjected to technology, science and economy. *“Quantitative language replaces qualitative, thus becoming the only scientific means of approach to the undifferentiated stratification of production and hence of reality.”* (Branzi 2006: 179) This project radicalizes the mechanistic aspect of architecture to the extreme and portrays it as the formatting of an interior – an internal space with ample infrastructure, air conditioned and artificially lit – mediating between the two most iconic typologies of mass production – the factory and the shopping mall. Architecture’s role is to engineer the most efficient organization of infrastructural systems. Life and the topography of the city becomes an ephemeral entity escaping the domain of architecture.

Figure 7-34. LEFT: type-writer plan of the infrastructural expanse of No-Stop City. RIGHT: Model of the infrastructural expanse of No-Stop City. ©Branzi 2006

Although radical, this and similar examples opened a discussion about the importance and role of infrastructure in this new, immaterial city of flows. Urbanism and architecture started to be understood as a function of economy and most efficiently managed through the instrument of infrastructure. Allen argues architecture should change from the representational practice dealing with meaning to *“material practice”*, employing infrastructure as a design instrument to facilitate that. (Allen in Almy ed. 2007: 177) However, *“material practice”* no longer refers to the topography of the city where a shoemaker makes shoes or where an industrial worker has to support their family, but to a more “liberated” understanding like *“ecology or engineering”* that frees itself from the domain of human interactions. The world of economy and flows is so pervasive that a generic understanding of “space” encompasses the entire embodied world. In this conceptual abstraction, *“material practice”* is scientific knowledge that deals with the physical environment.

Infrastructural urbanism began to be hailed as the best approach to understand, manage and control the horizontal city. Architectural practice rooted in machine-based discourses of modernism ensures that "good architecture" equates to engineering efficiency. In previous chapters we connected the new modernist expression of industrial process of cities in the US and Europe, to a need for a new language that would be untainted by the First World War. The next step, apparent in the work of James Corner, Stan Allen and Alex Wall is that the functional paradigm has been taken to the next level, where architecture (urbanism, landscape, territory) is no longer an indicator of human well-being but a strict accommodation of the needs of capital, the free market and the economy.



The image of the city had become a disenfranchised machine, emptied of any civic aspirations. The city as such had become a space participation of individuals that suppresses collective participation. The network city is a Cartesian territory where a successful economy equates to a good and just city, through individuals' physical well-being<sup>2</sup>. The city is a territory where infrastructure has instrumentalized nature as a standing reserve for the benefit of the new mode of production (adaptability, management and connectivity) (Figure 7-35).

*Figure 7-35. Flawless infrastructural execution of Silicon Valley for the economic efficiency. © Anonymous, circa 1980s, accessed at Google in May 2014.*

<sup>2</sup> Please refer to chapter 7.3.2 where a more in-depth explanation of the link between science, well-being and freedom for civic participation is explored.

In parallel to this systemic, machinic structuring of territory, infrastructural networks are fragmenting and atomizing the social space that emerged in the city of unskilled worker. The social space already referred to by Arendt is slowly dissected and compartmentalized into smaller and smaller individual units. The most iconic example is the introverted nuclear family and its suburban house (Figure 7-36) the next stage of the transformation of political space. From civic, across public, to intimate space – architecture is progressively creating more apolitical and introverted publics, in addition “*the public realm is not a civic arena that brackets difference and private interests.*” (Amin and Thrift 2002: 136)

*Figure 7-36. Suburban housing in Silicon Valley, San Jose, California close to the Villages Golf & Country Club. © Google, May 2014.*

The reconciliation of the topography of the newly emerging city with the question of community and politics is an on-going struggle and one of the main issues engaged with in chapter 8. However prior to this speculation, we need to outline this disassociated and introverted topography.

#### **TOPOGRAPHY OF THE INNOVATION FLOW CITY**

If we continue with the Silicon Valley example, a new type of city is being created, where individual happiness and emancipation from obligation to others is understood as freedom and is the highest ideal. This is well described in Ayn Rand's *Atlas Shrugged* (1957), a novel outlining Rand's ideas on Objectivism. The book was an unofficial bible of newly emerging inventor-entrepreneurs.

The new city requires a culture that is adaptable and roots its definition in perpetual reinterpretation and reinvention. The only stable element and reference through which a kind of continuity is possible is oneself. The most logical obligation therefore exists only and purely to the individual. Ayn Rand's philosophy of Objectivism "*defends an ethic which is remarkable for its absence of any obligation towards others, only towards oneself.*" (Flahalut 2009)

If we combine this ego-centric view with the world of flows, infrastructure, and neo-liberal market, we get a completely new definition of a city. This is a fast paced environment where reality is measured through money, economy and capital – supposedly "objective" means – "*as the only philosophical system that protects the freedom of man's mind, the rights of the individual, and the prosperity of man's life on earth.*" (Bernstein 2000: 11)

It is no wonder that Silicon Valley entrepreneurs took *Atlas Shrugged* as the unofficial bible, since "*many of Rand's protagonists have an entrepreneurial bent and accumulate wealth through an ingenious invention or by making a scientific breakthrough.*" (Burns 2005: 150)

This pronounced neo-liberal view gives us a good starting point to outline the following changes. Society has become fractured and atomized, and individual rights and freedoms are valued over anything else. However, these rights and freedoms are mainly measured and evaluated against personal happiness and well-being. Work and thinking have become ever more disconnected from everyday experience and practical considerations of life. The progression from "civic space" to "social space" and now to the radical atomisation of this sphere of human experience is a progressive degradation of the civic city, catering for ever more abstracted concepts. This has important consequences for the freedom of personal commitment, which is increasingly narrow – from actual political participation and commitment to the city through commitment to the world of consumption, to commitment to the completely disassociated intimate space of the nuclear family (Figure 7-37).

A culture formerly betrothed to nature through making and doing is progressively losing this link, and becoming based on a simulated reality of science, politics and economics that is derived from statistical analysis, as if quantification of trends had replaced communal commitment. This reality is portrayed through the lens of economy and quasi-science and is shown as a frictionless, smooth world without discontinuity and most importantly, without conflict.

*Figure 7-37. Image of ideal nuclear family life in suburbs. An ad for Metropolitan Life Insurance company in 1958. © Anonymous, accessed at vintageadbrowser.com in February 2014.*

The sphere of work and making (being physical or mental) is becoming ever more disconnected from our social space where we cater for "human" material needs. How to address this problem is an open question. Such efforts as those of "Actor-Network Theory" to reconfigure the concept of "social" to include our involvement with things (Latour 2005: *Reassembling the Social*) are a promising beginning, as is Latour's effort to join the humanities and political life to that of science by trying to find a common ground for matters of concern and matters of fact (*Politics of Nature* 2004). However, these are as much symptoms of the problem as the beginnings of a solution. In this dissertation, these problems are addressed through the topography of Shipai, where a fraction of concrete engagements has been retained, due to a plurality of actors. In addition, to help us think through this situation, let us first examine an alternative, more politically engaged and civic account of Western productive topography that gave rise to "Third Italy".

### TOPOGRAPHY OF THIRD ITALY

Conflict and the possibility of its reconciliation is the basis for any civic city. Therefore, let us examine a contemporary example that has been portrayed as a civic topography resting upon industrial production and working within the contemporary dispersed global world.

As an antidote to the frictionless culture of economy, researchers have put forward an order that looks at individual moments more closely. Sassen, exploring the depths and lengths of the global economy and its "circuitry", concedes that even though the functioning and managing of the world is organized horizontally, based in flows and networks, we should not forget "everyday life" (Amin and Thrift 2002: 83) in order to "*recover the material conditions, production sites, and place-boundedness that are also part of globalization and the information economy.*" (Sassen 2012: 2)

Even more progressive is an understanding that argues for continuation of industrial production as the basis for the civic city. The most recognized example is a case study of small industrial production clusters in northeast Italy (Figure 7-38). The area and description of socio-economic organization acquired the title "Third Italy". It argued that contemporary urban culture is not based only on tertiary sectors, but on "*many specialized agglomerations of artisanal firms producing design-intensive product*" (Scott 1988: 180) drawing its continuity from the craft society.

Third Italy was first described by Arnaldo Bagnasco (1977) as a regionally bound economy based on small and flexible industrial production by local producers. According to Bagnasco there are three reasons for this type of development and organization. One, small firms filled in niche markets that big manufacturing centres like Milan were not able to fill, and undertook small flexible batch production. Two, they catered for a specialized market closely connected to craft, where mass production and automation are harder to achieve due to labour intensive products (jewellery, silk industry, tanning, marble quarrying, etc). And three, a set of unique socio-political reasons that resulted in "runaway shops" in the mass industrialization of 1960s. This put political pressures on skilled workers in industrial centres and rather than giving in, they started their own businesses. This is also a very prominent reason cited in the *Second Industrial Divide* (Soble and Piore 1984: 156, 266) – a most thorough description and proponent of flexible specialization as an alternative socio-economic order.

*Figure 7-38. LEFT: Region of north Italy part of the "Third Italy" © Tomaz Pipan RIGHT: A typical landscape of the Third Italy in Veneto region, 50 kilometres out of Padua with interlocking industry, agriculture and towns. © Google, May 2014.*

Third Italy has been an exemplar of how local producers can compete in the world of global economy against significant players through their know-how, retained as artisans and craftsmen. This type of industrial production was first theorized by Marshall in 1890, who spoke of clusters of industries and in favour of economic and social resiliency of these clusters if "*several distinct industries are strongly developed.*" (Marshall 1890: 170) Therefore, in order to retain an advantage over mass production it is important to become specialized, retain skills and develop them further through modernization, becoming an "*alternative to mass production as a model of technological advance.*" (Piore and Sabel 1984: 28)

Third Italy was especially praised due to the variety of production - textiles, precision machine tools, food, gold working, wood and furniture, processing of minerals, ceramics, etc. (Italian Institute for Foreign Trade 1989: 229-234). All this variety exists within local networks of artisans and producers, to a large extent privately owned by individual families.

This filial tradition and continuity shows a different basis for the organization of social and civic participation. Piore and Sabel discuss the similarity of ethical norms between similar producers, due to affiliation and belonging where "*a breach of the standard violates not only an economic contract, but also deeply held community mores.*" (Piore and Sabel 1984: 266) This is a form of city topography that is more similar to pre-industrial craft society. We should confront this positive account of what is usually termed "New Regionalism" with the more pessimistic interpretation of Hadjimichalis (2006) and Agnew et al. (2005). They believe that the "New Regionalism" model is a distorted view which favours local producers over global multi-nationals and their political and economic influence, even though they are both part of the same global market.

The fact is that even if the local clusters of Third Italy support a rich regional metabolism it is impossible to escape the competition of the global market where "*de-localization breaks down local clusters and networks and builds up new hierarchies resembling many characteristics of vertically integrated multilocal companies.*" (Hadjimichalis 2006: 102)

Hadjimichalis argues that Third Italy is not a viable model for sustainable, small-scale, family-run, flexible industries supporting a local community because the global labour market and price relations

are interconnected. "Made in Italy" carries a certain level of authority, but quality and design matter only to a certain extent in the capitalist market. In addition, global brand names like Prada still control the market and delegate prices to their subcontractors and Third Italy firms cannot compete. Third Italy would also not be able to exist without strong economic and policy support of the state, like the Multi Fibre Agreement Act by the EU which safeguards local producers. It ended in 2005, which accelerated the decline of the garment industry in the EU, as India and Bangladesh took over. The apparently positive aspect of familial ownership also supports "*poor working conditions, longer working hours and low pay*" and a 15% of labour is informal and part of the grey economy. These family connections and the metabolism of the grey economy are summarized by theorists under the concept of "social capital", and defined as a positive factor in the local economy. (ad. lib. Hadjimichalis 2006: 85-89) Hadjimichalis presents the critique that further description or more in-depth understanding of the topography is ignored by New Regionalism as it omits inequalities such as "*gender and ethnicity, the generation gap, wages and working conditions, the role of the state and uneven development*" (Hadjimichalis 2006: 83)

All of the hesitations above are warranted and show just how difficult it is to imagine a civic city in the contemporary, globally connected world of free economy. However, it does offer a way to rethink civic culture on the basis of making and doing, where life revolves around involvement with concrete engagements and not only around consumption. Even though the life portrayed requires more strife and effort, it retains civic participation, which has been lost in consumer culture. Nonetheless, freedom for political and civic participation has never been about complacency.

Piore and Sabel see possibilities in a mix between Keynesian macroeconomics and small flexible specialized producers (like Third Italy), however this requires central regulation (like the textile act in EU that run out in 2005) – and a level of government control that the neo-liberal environment just does not provide. Hadjimichalis is extremely sceptical, and refers to Piore and Sabel's research as being generalist and focusing only on positive aspects. If we compare Third Italy with Shipai, especially the negotiation between the two orders as described in chapter 7.3 there is a basis to think about a possible composite order where industry plays a significant role in a new civic order, which is not in debt solely to consumerism.

***INSOURCING BOOM***

In recent years (as of 2010) an additional positive account has emerged. The dispersal of production to Asia is being revisited. Now, the connection between making and doing is ever more important and it has been acknowledged that production must become part of the city once again. Now manufacturing giants like GE are moving their entire production lines back to the US, as although the workforce is more expensive, it is better to produce some of the products at home.

For example, having skilled welders working with designers creates a more efficient and energy friendly water heater, as opposed to the less effective process of sending engineering drawings to China (Fishman 2012). This physically proximate relationship allows the welders knowledge and know-how to inform the design process. Even assembly-line workers have know-how that could potentially be very important to improving designs.

### **7.2.3. Conclusion: Dispersed Industrial Production**

This chapter has examined two themes. The first is the decline of Detroit and the unskilled city, and the second is the rise of neo-liberal ideas and the 'connected knowledge' economy. We traced the decline of Detroit through stages. First, automation that further decreased importance and need for unskilled workers. Second, decentralization of white-collar workers and factories. Third, a misguided focus on automobile industry and on mass production rather than innovation.

We then looked at the rise of neo-liberal ideas, in which the city is increasingly understood in abstract conceptual terms as an element of an unhindered global economy of networks and flows. This has produced a city based on innovation and knowledge. Silicon Valley is a model example of how knowledge can be turned into a greater resource than mass production. This shift is expressed in the politics, publics, topography and architecture of the neoliberal city.

Finally, we considered two alternatives to the neo-liberal condition. First Third Italy, where civic participation is based on industrial production. Although its qualities are disputed it offers a possible new civic order. Second, a contemporary trend under the label "Insourcing Boom" that re-examines the disconnection between manual work and its know-how and the world of ideas.

#### ***ROLE OF ARCHITECTURE AND CAPACITY FOR COMMITMENT***

Subjugating the city to networks of global production flows, management and innovation also has a radical consequence for architecture and urbanism. Concrete elements that structure the order of the city like streets, squares and churches are replaced by abstract concepts borrowed from geometry and geography, like surfaces, territory and landscapes. Infrastructure and networks become operational tools that enable the managing and handling of this mental construct. On the other hand, squares and streets become "public spaces" – for socialization, meeting, and networking and for pleasurable, fraternal activities like sport, eating and drinking.

Within this emerging, dispersed, ever-changing environment, the only constant is oneself. The cult of personal rights and freedoms leads to atomization of public space and increased disconnection from civic life. De-politicization of the public is progressing due to the advances in technology committed to well-being, and neo-liberal changes in politics and the economy. The middle class in particular are forfeiting their right to participate in civic society as personal freedom is measured by one's possession of a car, a house, and life-style commodities.

Third Italy is the basis of a possible civic order that retains a connection to concrete engagement, although it is in a continual cost race with the East. Researchers like Hadjimichalis dispute the credibility of this model, but Third Italy demonstrates that a dispersed contemporary city, heavily augmented by technology can still possess the potential for a civic culture. Craft-specialized know-how is central and helps technology and automation to be employed as both plural and political to retain a participatory connection through which a civic society is possible. This participation comes with a price tag in a form of precarious future for the families, who operate in a highly competitive global environment and this results in a, self-imposed "family slavery".

### ***ROLE OF INSTITUTIONS AND CAPACITY FOR COMMITMENT***

The development of neo-liberal ideas described by Ayn Rand permits absolute freedom from any kind of commitments other than to the self, obligating individuals to succeed for personal gain, physical comfort and well-being. This almost anarchic position – "each to his own" – leads to a pronounced fragmentation of what was left of civic space, or Arendt's "social space". The consequence is a loss of a sense of community and responsibility to the civic city. In addition, a split between the private sphere of leisure and the public sphere of work has emerged due to the displacement of concrete engagement and the virtualization of work. Architecture, through dispersion and zoning, helps to foster this condition.

The atomization of social space creates pockets of indifference, and erases the common ground of disagreement so characteristic of civic life, where making and doing is a constituent of everyday life. The nuclear family and single family home are vivid examples of institutions that cater for this topography. Joined by "institutions of leisure" such as sport parks, golf clubs and suburban shopping; they create an increasingly apolitical public where public space only supports structured consumption. The architecture of the neo-liberal city is a mechanism to pacify individuals through atomization and provision of comfort; and has lost its capacity for supporting civic commitment.

The world of well-being is more seductive than the "freedom for" civic participation offered by the "open access" condition, which equates to the voice of group of interested individuals, or a civic initiative. This requires an engaged community – that atomization makes difficult to establish. In addition, loss of civic space can also be attributed to the sheer size of the new city and the amount of participants, as established in chapter 7.1.

The insourcing boom revisits the question of commitment in capitalist cities of economy and knowledge production. The value of a direct connection between articulation and embodiment in the production of goods is re-evaluated, in that the quality of the goods or services depends upon concrete

collaboration, proximity, shared culture and so forth. Although it is worth noting that the philosophy of goods production (ever growing, ever better, with innovation-for-profit as a key goal) remains the same. Does that also signal a partial recollection of civic city? At least it gives us a modicum of hope that a certain type of ethical civic order based on technology and know-how is possible.

#### ***TOPICS FOR FOLLOWING CHAPTERS***

What we have traced through chapters 6.2, 7.1 and 7.2 is the disconnection of work from civic culture. The disassociation of multi-nationals from place and commitment to place, along with their increasing political power creates several conditions that threaten civic coherence. The worker is able to participate only by becoming "middle class", but within the limits of salary and not according to skills. Urban topography becomes a vehicle of land capitalisation, rather than a setting for human life, so zones emerge, designated to certain activities and reciprocal rents and services. This dominantly economic perception of urban topography means that if a large multi-national collapses, or decides to relocate, so with it go the jobs, land-taxes and capital that provide for services and functioning of the city.

Although we will not be able to solve the problem of egalitarian capitalism, the examples of Third Italy and "insourcing boom" give us a way to think and speculate about a possible civic order based on technology, a "resource" that until now has mainly been reserved for the gains of capital. Combining this insight with the fragmented topography in Shipai is a concrete basis to devise a possible reinterpretation of industry as an ethical civic order.

For this speculation, we need to address rehabilitation initiatives of degraded industrial cities in the West. The predominant direction has usually been an infusion of tertiary sectors like tourism, culture, banking and education. Referring to Detroit, and examining capacity of industry as such, we will now look at how industrial production has been reinvented through ecology and sustainability. Are these concepts a political and capitalist demagogy, which use popular references to nature, or is there any real capacity to re-address problems of cities which has been revealed so far?

### 7.3. Displaced Industrial Production

The phenomenon of rapid decline of Detroit (discussed in Chapter 7.2) has been repeated across the USA and Europe. Liverpool witnessed big economic and social problems with the advent of containerization in 1970s. *Ruhrgebiet* basin, a major supply of coal and Germany's steel foundry, went through a series of crises from 1950s onwards due to diminished demand for coal and uncompetitive prices. All these cities had one important common feature – they were based on one dominant industry. With the onset of global economics and liberal capitalism these cities and regions were to face important social and cultural changes and most started to reorganise towards some kind of mix of tertiary sector industries; from banking, trade, to education, tourism and culture. Although the knowledge economy has played an increasingly important role, this restructuring was not wholly successful.

In this chapter, we examine the potential of industry and the role it can play in urban culture. In the last 10 to 15 years, one of the more visible "instruments" of remediation of industrially blighted cities has become sustainability and ecology. Ecology offers recuperation of the city through qualities of nature. Even though the meaning of "nature" is obscure, this is a politically powerful portrayal of industrial production as sustainable. Sustainability is similar, and understood in a variety of ways, usually superficial and for political ends. There are two separate understandings of these terms, first through the eyes of industries and their corporations, and second through the eyes of the blighted city. In this discussion, we define the limits of meaning that ecology and sustainability can embody, in order to understand their potentials for nature and the city. In the conclusion, the two concepts are understood in reference to philosophical texts, mainly those of Cronon, Latour and Guattari.

#### 7.3.1. Corporations and Sustainable, Ecological Industrialization

Lack of investment into research in the US automobile industry is one of the main reasons for its perpetual crisis – from the cheaper and better quality of foreign producers like Toyota and Volkswagen in 1950s and 1960s, to the effects of oil crisis in 1970s worsened by out-dated engines.

The companies were slow to adopt new production management and technologies like "lean manufacturing" and to develop new fuel efficient and lower CO<sub>2</sub> emitting engines which became a serious issue in the wake of the 2003-2008 energy crises as the American car manufacturers did not have fuel efficient consumer cars. In 2008 US car manufacturing went into recession yet again, and car manufacturers (Chrysler and General Motors, supported by Ford) asked for a federal bailout. In return they promised to develop more energy efficient cars and implement a long-term plan for the

development of electrification. In language filled with terms such as "fuel efficiency" and "research", Ford explains in its business plan to the banking Committee, their contribution to more efficient car production *"including next generation hybrids and all-electric vehicles."* (Ford Motor Company 2008: 16) Ford also used a \$5bn loan for retooling and upgrading their production to more energy efficient production through the Advanced Technology Vehicles Manufacturing loan program (ATVM) (Rusco 2011: 13).

This is a proactive use of ideas of ecology and sustainability within the industry. Apart from a commercial emphasis on fuel efficiency and the economic aspects of the cars themselves, for us a more intriguing development is their branding of ecology as a remedy for the misfortune of declining industry.

### **CORPORATIONS AND ECOLOGY OF INDUSTRIAL ARCHITECTURE**

*Figure 7-39. The sedum roof of the F 105 truck production plant called Ford Centre (foreground) with the proposed greening of the rest of the area. © McDonough + Partners.*

Ecology and sustainability have played an important role in the redevelopment of the River Rouge complex. A landscape masterplan for a complete ecological refurbishment has been developed by sustainable architectural firm William McDonough + Partners. A 20-year comprehensive urban and landscape remediation plan (Figure 7-39) started as early as 1999, and includes a natural water cleaning system using storm and runoff water, phytoremediation of industrially polluted soil, habitat restoration, and a new assembly line for the famous F 105 trucks integrating the latest advancements in assembly and automation. The strategy also features research into polymer recycling and

disassembly design opportunities for streamlined and ecologically more efficient production (ad lib. McDonough + Partners, n.d.).

The depth of political and economic shifts that this masterplan represents is not immediately apparent. For this we need a short introduction into the technological and scientific theory driving the masterplan itself. Ecological refurbishment of River Rouge is predominantly based on concepts developed by McDonough-Braungart Design Chemistry (MBDC) a joint venture between American designer William McDonough (the architect responsible for the masterplan) and German chemist Michael Braungart. MBDC is dedicated to the study of technological cycles based on ecological and chemical know-how. One of the main principles is a concept of perpetual energy / material cycles described in book *Cradle to Cradle* (McDonough and Braungart 2002). Theoretically this eliminates the need for waste altogether, as intelligent materials and production cycles mean it can be reused as a resource for another industrial cycle, reusing same "nutrients" in endless material and energy flows.

From a scientific point of view, the book closely examines industrial production to address its limits in terms of material sustainability. It specifically targets the mass production cycle from a material point of view in order to rethink how resources can be used more efficiently so to stay in product cycles for longer. MBDC does not hide their corporate and industry affiliation; being a for-profit organization they actually hope to work with industry, and the theory allows industrial producers to use science to present their activities as ecological as *"MBDC provides the technical expertise to help companies develop solutions around material health, material reutilization, renewable energy use, water stewardship, and social fairness."* (MBDC 2013: 3)

The techno-scientific approach enables a link between nature and profit by way of ecology, which is also the case at River Rouge sustainability plan (Figure 7-40).

*Figure 7-41 LEFT: aerial view of the sedum roof © Ford Motor Company, n.d. RIGHT: Collection and distribution of water in the sedum roof area. © McDonough + Partners, 2011*

It is likely that additional funds from the ATVM were granted as a consequence of the 1999 masterplan. As architecture, the River Rouge scheme brings together all different biological and infrastructural systems to revamp the image of the factory into an environmentally friendly one, answering a technological problem.<sup>1</sup> The company is using the image of ecological efficiency as a marketing tool, and indirectly claiming that cycles of synthetic and natural "nutrients", infused with the image of green roofs and clean water (Figure 7-41) will solve both the economic problems of River Rouge and Detroit. We traced a similar appropriation of ecology by the developers and planners of Dongguan Eco-Industrial Park in chapter 5.2.1. The quote above reveals the link between industrial production, its ecological potential and its visual quality – "beauty" – and the rebranding of technology through the medium of nature as aesthetics<sup>2</sup>.

Although the theory is seductive, the masterplan also has its limitations. First, the landscape refurbishment masterplan covers the site of the new Ford Rouge Centre (cca. 760,000 m<sup>2</sup>) that is only a small percentage of the entire complex. The sedum roof (cca. 43,000 m<sup>2</sup>), which represents a merger of construction and natural habitats, covers only 1% of the total River Rouge area (cca 4,416,000 m<sup>2</sup>). (Figure 7-42) With such a drastic discrepancy between the remediated and non-remediated area, and the limited area of the proposed biotope, the whole effort could be called into question.

Two important conclusions can be made here. First, "nature" is being used in an industrial way – with acres of monoculture designed to operate as a system of ecological flows, closer to landscape engineering than architecture or urbanism and unrelated to the topography of the city. It is clear that ecological remediation of decades of pollution requires an expensive and long-term engagement. Second, ecology as a source of profit and sustainability is understood at the technical level, where nature is taken as an engineering resource, formatted for capitalization. In this particular project these concepts are also a means of securing funding for additional development.

Here we find the limit of multinational companies in terms of ecology and sustainability. They are limited in tackling other things within the domain of these concepts, such as long-term development of the city as a civic locus. Workers without prospects are an unaddressed part of ecological and social decline which are much more complex than the re-birth of nature through engineering. The problem of monothematic industrial city is one that has outgrown the capacity of an industrial project to solve.

.....  
<sup>1</sup> This scientific approach to inclusive design is a good example for the Eco-Industrial Park in Shipai to follow. Even though it has employed a wetland natural cleaning system on an unprecedented scale (it is supposed to process 200.000 tons of sewage water daily), it still has a strict zoning principle so each industrial producer is an individual element, which decreases the interconnections "cradle to cradle" theory could offer.

<sup>2</sup> A more in-depth connection between technology, nature and aesthetics is described in the following sub-chapter.

*Figure 7-42 Location of Ford Center and its sedum roof in reference to River Rouge complex © Google, May 2014.*

**CORPORATIONS AND CIVIC RESPONSIBILITY**

We established in chapter 7.2.1 that emerging multinationals discarded most of their civic responsibility. In Detroit, Ford is not equipped to deal with social and political problems, but it does exhibit some level of civic responsibility. There are a few examples that demonstrate its "civic" commitment, although the extent to which these connect the Ford Conglomerate with topography of the city is deeply questionable.

The first is the Ford Foundation, a non-profit organization that *"promote[s] collaboration among the nonprofit, government and business sectors"* (fordfoundation.org)<sup>3</sup>. In 2012 the Ford Foundation donated \$10M for the "Ford Resource and Engagement Centre" at "Mexicantown Mercado" in Detroit, where the services include Job Services, Accounting Aid, dance and art classes and college classes<sup>4</sup>. The foundation was established in 1936 in Detroit by Edsel and Henry Ford, and is now headquartered in New York and engaged with projects across the globe, so it is not embedded in any particular location.

The second example is "The Henry Ford" museum at Dearborn that *"provides unique educational experiences based on authentic objects, stories, and lives from America's traditions of ingenuity, resourcefulness and innovation"*<sup>5</sup>. The museum provides curriculum material for teachers, but apart from corporate propaganda, and construction of a Ford "tradition", it is hard to see any deeper and long-term obligation to local community development and the growth of Detroit.

The third example is the Henry Ford Health System (HFHS) – a non-profit health organization with 4 major hospitals, 9 ERs and 30 general medical centres. It engages with research into cardiovascular, neurosciences and cancer and is affiliated with a high ranking public universities – the Wayne State University's School of Medicine<sup>6</sup> whose campus is a vibrant city community of Detroit. This provisionally situates HFHS in the topography of the city through its contributions to education and research (both for its own sake and as an economic enterprise). The connection to a locally situated, vivid and lively Detroit campus brings about the programmatic variety of everyday life – a crucial ingredient in the city (Figure 7-43).

<sup>3</sup> <http://www.fordfoundation.org/about-us/mission> accessed on March 2014.

<sup>4</sup> <http://www.freep.com/article/20130606/COL06/306060099/Tom-Walsh-Ford-Mexicantown-Southwest-Detroit> accessed on December 2013.

<http://www.freep.com/article/20121218/NEWS01/121218060/ford-to-open-mexicantown-community-center> accessed on December 2013.

[http://en.wikipedia.org/wiki/Mexicantown,\\_Detroit](http://en.wikipedia.org/wiki/Mexicantown,_Detroit) accessed on December 2013.

<sup>5</sup> <https://www.thehenryford.org/about/mission.aspx> accessed on December 2013.

<sup>6</sup> <http://www.henryford.com/body.cfm?id=59142> accessed on December 2013.

[http://en.wikipedia.org/wiki/Henry\\_Ford\\_Health\\_System](http://en.wikipedia.org/wiki/Henry_Ford_Health_System) accessed on December 2013.



As described in 7.1.2, infusing industrial monofunctional topography with alternative programs is the only way to make Detroit a contemporary city and a place of a rich urban metabolism.

Given the relationship between HFHS and Wayne State University it is striking that there is no collaboration in research between Ford, Chrysler or General Motors and the Wayne University engineering or chemistry departments. The Detroit Institute of Technology, established as private engineering and science college by Henry Ford himself in 1891 was closed down as a result of the 1992 recession<sup>7</sup>. Ford does have a standing cooperation of more than 60 years with research departments at Michigan University in Ann Arbor – a university city 50 km west of Detroit. In fact, at the end of 2013, Ford invested heavily into a new research laboratory for electric battery development<sup>8</sup>, branding this as development perspective for the region as *"the best and brightest from car companies, suppliers and academia will come here"* (ford.com)<sup>9</sup>

Even if the investment in regional know-how in Ann Arbor shows a certain level of regional commitment it is relatively distant, and does not connect to local Detroit's topography, unlike Wayne University. In addition, recently the Ford Silicon Valley Lab, the most progressive and knowledge oriented part of Ford's research was opened in Silicon Valley. It integrates with Stanford's research, supporting their programs and searching for talent at the annual Career Fair<sup>10</sup> as *"Silicon Valley represents a deep and dynamic technology neighborhood and is far from Dearborn"* (cbslocal.com)<sup>11</sup> What is more, the most recent announcement in January 2014 is that its initial research on Advanced Automated Driving developed in the university of Michigan (Ann Arbor) is to be given over to a collaborative/competitive theatre between MIT and Stanford. (ford.com)<sup>12</sup>

Thus, it is clear that ecological design to remediate current conditions is not sufficient to support sustainable development beyond the walls of the company compound. Manufacturers have to engage more profoundly with local topography if they want to claim that the development of their businesses

<sup>7</sup> [https://ncahlc.org/component/com\\_directory/Action,ShowBasic/Itemid,/instid,134/](https://ncahlc.org/component/com_directory/Action,ShowBasic/Itemid,/instid,134/) accessed on January 2014.

<sup>8</sup> [http://en.wikipedia.org/wiki/Detroit\\_Institute\\_of\\_Technology](http://en.wikipedia.org/wiki/Detroit_Institute_of_Technology) accessed on January 2014.

<sup>9</sup> <http://www.ns.umich.edu/new/multimedia/slideshows/21747-open-innovation-battery-lab-established-at-u-michigan-with-ford-medc> accessed on March 2014.

<sup>10</sup> <http://corporate.ford.com/news-center/press-releases-detail/ford-university-of-michigan-battery-lab> accessed March on 2014.

<sup>11</sup> <http://fordsvl.com/blog/2013/10/stanford-career-fair.html> accessed on December 2013.

<sup>12</sup> <http://detroit.cbslocal.com/2012/01/08/ford-motor-to-open-first-silicon-valley-research-lab/> accessed on December 2013.

<sup>13</sup> <https://media.ford.com/content/fordmedia/fna/us/en/news/2014/01/22/ford-teams-up-with-mit-and-stanford-to-advance-automated-driving.html> accessed on March 2014.

is locally sustainable. However, even if that engagement is genuine, it might prove difficult to implement due to the existing geography of knowledge production.

Even with the scope of Ford's engagement in Detroit, there is no current collaboration with local universities that would encourage local development of higher added value knowledge and jobs in the automobile industry, which is worrying. It seems Ford simply does not have the resources and dedication needed to start up something remotely equivalent to the Stanford-Silicon Valley model or MIT. Even though Ford has a running collaboration with Michigan University in Ann Arbor they did not consider, for example, opening a new research lab in Detroit as a dislocated unit. For Ford – research is primarily an economic resource and its civic and urban capacities are less important. Giving \$10 million to a local community centre is a cheaper solution than relocating a research centre.

#### **LIMITS OF MULTINATIONAL COMPANIES AS CIVIC PARTNERS**

The above descriptions show the limits of a multinational company in terms of its civic commitment. Local engagement on the level of an industrial conglomerate is detached from the actual problems of city topography and civic life. The pattern is typical, as corporations operate in an abstracted economic world with only loose connections and participation to local affairs. This can be attributed to their sheer size, decentralization and dispersed global outreach and is connected to the ideas described in section "Economy of Flows" of chapter 7.2.2. An illustrative example is the Ford Foundation's donation to the "Resource and Engagement Centre" in Detroit, which serves as a politically correct emblem for the Ford logo. Yet Ford has simultaneously opened research centres on the other side of the country, and it becomes clear that the potential for local positive impact is not a consideration, when compared to economic competitiveness.

This detachment is apparent when comparing the urban and architectural qualities of River Rouge with an equally sized portion of Shipai. In area, the River Rouge complex is vast: it rivals two administrative villages in Shipai, or a sizable chunk of Detroit (Figure 7-44). Shipai and Highland Park are both rich environments, while River Rouge is entirely dedicated to industrial production and devoid of any urban life; no dwellings, shops, food parlours, just streamlined industrial production. This level of topographic "flatness" is not achieved even in the walled-in industrial compounds like Foxconn, referred to in chapter 6.4 (Dean 2007).

The River Rouge complex is completely disconnected from the local affairs of the city. In contrast, in Shipai industrial architecture is integrated into the local urban fabric. In Highland Park a similar situation prevailed, and its prominent façade was a source of civic pride for workers. (Figure 7-44)

*Figure 7-44 Size comparison between River Rouge Detroit (left) Shipai China (middle) and Highland Park Detroit (right). The industrial grounds of River Rouge could fit three administrative villages in Shipai or a sizable chunk of Detroit with Highland Park and adjacent housing. © Google, May 2014.*

Shipai has a varied, mixed environment where fragmentation of land uses and diversification of life is its most important quality (chapter 7.1.2). Its myriad of local villagers, workers and entrepreneurs constitute a rich composite, with multiple legitimate civic and political claims on the territory. In River Rouge architecture does not embody a representation of industry as an institution and there is only one constituent claim – that of its owner – the Ford Motor Company.

Ford developed from being a locally engaged company physically linked to Detroit, to a multinational conglomerate whose disconnection from local topography is embodied by its physical manifestations at River Rouge, the NYC headquarters, its global sub-headquarters and management. Its engagement can only be at the level of articulation, in political practices established within the company, and it will never be able to achieve the level of engagement once embodied in Highland Park, let alone by Village Committees in Shipai. Thus, multinationals are potential civic partners to policy makers and legislative institutions, like the state.

In contrast to this articulated partnership, Shipai is a case of a physically embodied integration between industry and locality, which has much greater potential for accommodation of change. For example, the negotiation between the regional corridor and local topography (chapter 5.2), shows how malleable the topography can be. There is a close proximity between living and working where the local corridor is a public territory that accommodates varied social classes and is located less than a 5-minutes walk to the regional corridor of industry. At the same time, there is usually a dormitory in industrial compounds, or a food stand, a hairdresser's or a grocery store just outside the gate (see examples of typicalities in chapter 6.3).

In Shipai it is perhaps taken to an extreme – where "living rooms" can be found in the street – and we can only speculate on the legibility and positive effects on the workers. However, this organization offers a different understanding of the potential engagement between industry and local life – something that industrial monoculture can never accommodate. This seems to turn the argument for an interpretation of capitalism as an open-access state like that of the U.S.A. of North et al. on its head.



Comparing the plurality of uses and politically involved individuals in Shipai with the single stakeholder of River Rouge suggests that the open access state better accommodates absolute

dominance of capital, rather than plurality and that certain types of natural state may be better positioned to support a long-term sustainable civic order where freedom for commitment is shared amongst many parties.

The irony here is that, from a western perspective, PR China is a repressive, nepotistic regime, with many of the defects of central control; yet it is within the open-access state that one finds monothematic organisations that have much worse consequences for the topography of the city with their economically streamlined policies. It is true that the plurality of institutions and supposedly impersonal access granted to the individual creates a more "accessible" urban order by some measures, but when the capital and political power that accompanies this plurality is considered, it is apparent that the majority of institutions are as likely to curb individual's right to civic participation as to enhance it. This was particularly true with the decline of the automobile industry in Detroit – local unions and workers had no power to influence Ford's economic decisions. This continues to be the case today, when we look at the instrument of protest in the developed Western world that has been degraded into amusement and theatre, without any real political power.

The debacle of Ford/Detroit can be taken as topographic account of Schumpeterian "creative destruction" where the city of unskilled workers is just a sad but necessary casualty of progress towards the knowledge-based city, and may remain as a post-industrial wreck, supporting other cities attaining the next level.

#### **ROLE OF CITY AND POTENTIALS OF MULTI NATIONALS AS CIVIC PARTNERS**

Shinola, a young Detroit start-up that plays heavily on the local tradition of production and comes with strong financial backing, demonstrates an alternative approach. It makes high-end luxury consumer products like watches, bicycles and leather stationaries. The main funding comes from venture capital firm Bedrock owned by Tom Kartsotis, founder of well-established American brand and producer of watches Fossil Inc.<sup>13</sup>

<sup>13</sup> <http://www.forbes.com/sites/joannmuller/2013/07/26/in-bankrupt-detroit-shinola-puts-its-faith-in-american-manufacturing/> accessed on December 2013.

<sup>14</sup> <http://www.shinola.com/our-story/about-shinola> accessed on January 2014.

Figure 7-45 Shinola's Detroit flag ship store © Shinola, accessed at Facebook in May 2014.

Shinola claims to be developing local know-how by educating a new generation of watchmakers, bringing in watchmakers Ronda of Switzerland to teach manufacturing methods. In addition, they source the majority of their material and work within the USA, as is the case with their leather tanning collaboration. This is clearly a different model to the multinationals' sourcing of cheap labour from Asia. But Shinola concedes that within today's global world it is difficult not to have some labour and parts sourced globally<sup>15</sup>. Their good intentions are also demonstrated through direct local collaboration with the College for Creative Studies (CCS), as "*Shinola watch factory is housed in the college, where we proudly lead student design workshops.*" (shinola.com)<sup>16</sup>. CCS is housed in two block-sized campuses, both immediately next to Wayne University (Figure 7-43).

Figure 7-46. The branding campaign and marketing images for watches with portraits of the watch maker to add to the exclusivity of the product. © Shinola, accessed at Shinola.com in May 2014.

<sup>15</sup> <http://www.shinola.com/customer-service/> accessed on December 2013.

<sup>16</sup> <http://www.shinola.com/our-partners> accessed on January 2014.

The business model of high added value, high-tech production supported by a global hedge fund and embedded in the topography of the city is an example of what Amin and Thrift call "Cities as Sites". They suggest that traditional arguments for compact cities do not entirely hold true in today's dislocated virtual economy: the city cannot be a self-contained unit and there is little evidence *"that local personal contacts are of primary importance for business in the knowledge economy."* (Amin and Thrift 2002: 60) and that *"the mark of excellence in the world of science and education is peer recognition and international impact; local linkages alone can be a sign of parochialism."* (Amin and Thrift 2002: 63) The propinquity and density of the city is beneficial, especially for infrastructure and services. In addition, knowledge spill-over and competitive yet supportive environments also grow from cities (see chapter 7.2.2), but it is important to understand that these dense sites never operate by themselves. The argument for "Cities as Sites" is more profound.



*Figure 7-47. The branding campaign and marketing images for bikes with portraits of the mechanic to add to the exclusivity of the product. © Shinola, accessed at Shinola.com in May 2014.*

In other words: contemporary high-tech industrial production needs to be augmented by know-how and knowledge (Shinola + College for Creative Studies). It needs a city-like environment to flourish and a well-marketed, high-end product. This can only be achieved by being embedded in the global market and having access to capital through what Amin and Thrift call "Trans National Corporations" like Fossil Inc. Through that, Shinola has access to funds and management know-how, a distribution

network and business connections. All these are prerequisites that can only be provided by a corporate venture capital firm like Bedrock that has the hedge fund to start such an operation in the first place.

Connecting "cities as sites" to the global context reveals a rich order of global metabolism in which cities play a vital role. Their predominant function is in their density of services and institutions required by companies like Bedrock. Cities enable management and support the knowledge economy, but cannot function without their global hinterland.

Know-how, global outreach and funds are something local communities just do not have, which is a limit to locally run initiatives discussed next in 7.3.2. However, Shinola at least provides some civic capital for the public in the form of re-education and support of local know-how. This is something not provided by Ford<sup>17</sup>.

### 7.3.2. Landscape as agency in Industrial City

The sustainability of industrial production consists both of ecological design and of civic commitment. This is about fostering local knowledge and know-how, rather than one-off financial support for community projects. Furthermore, civic order can no longer solely be based on production as such, as knowledge and know-how play significant roles. This hints at a problem for Shipai, as it chronically lacks internal knowledge and know-how.

There is clearly some capacity in ecology and scientific nature to remedy industrial decline. Therefore, we now turn to an in depth examination of the capacity of landscape and nature in the city. Could landscape and nature be an instrument to develop more sustainable long-term projects for local communities? Is economic growth the only viable solution, or is possible to deal with decline in a more sustainable way?

The decline of industrial production in Detroit (Figure 7-48) had a devastating effect on the city, *"from 1950 to 2000 the population of Detroit decreased from over 1.8 million to 951,270."* From 1970-98 only 9,000 building permits and over 108,000 demolition permits were issued. Its housing stock started to decay and city spent \$25 million on house removal in 1990 alone. (ad lib. Daskalakis et al. 2001: 14-15)

<sup>17</sup> It is worth noting that assembling a watch and assembling a car are two completely different things. Connected to this is the fact that design ideas for a new watch are much more easily achieved than high-tech breakthroughs in robotic navigation, so there is also a clear limit to the types of services and products which can be incorporated into knowledge-disempowered cities like Detroit. Perhaps this can be seen as first step to slowly build up to a more serious research being re-introduced to Detroit.

*Figure 7-48 Decamping housing stock in Detroit. Figure – Ground diagram of housing stalk shrinkage © Richard Plunz, Plunz 1999.*

Can this still be called a city? Or is this abandonment, as Schumacher rightfully puts it, "*sealing the ultimate fate of Detroit as a suburb of its own suburbs.*" (Schumacher in Daskalakis et al. 2001: 48)

We now look at theoretical and practical examples that have arisen in recent years that put forward the agency of nature as a remedy for urban problems of decline. The case of Detroit was an important example for the formulation of Charles Waldheim's Landscape Urbanism theory.

### **ECOLOGY AND THE CITY**

Academics like Waldheim and practitioners like Corner suggest an alternative approach, arguing that landscape as an agency, rather than architecture, could produce a more inclusive remediation of the problem of shrinkage as it is "*the only medium capable of dealing with simultaneously decreasing densities and indeterminate futures*". (Waldheim in Daskalakis et al. 2001: 110) For the Landscape Urbanists, places with abandoned buildings are opportunities where "*projection of a landscape is viewed as an active and productive form of mediation.*" (Daskalakis et al. 2001: 91) They argue that

landscape can address a spectrum of problems through new uses and ways of organization that transcend the limitations engendered by architecture as a discipline, integrating *"the cultural and the natural; building and unbuilding; use and disuse; permanence and impermanence"* (ibid.). The proposed approach uses ecology – the scientific formatting of nature – to argue for the rejection of *"the camouflaging of ecological systems within pastoral images of 'nature' "* (Waldheim in Waldheim 2006: 39). By using ecological systems like water cycles, soil remediation, and natural habitats, the search for well-being observed in the architecture of modernism (chapter 7.1.2) is reframed through nature, and applied on an urban scale.

Using scientific measurement of nature and understanding nature as ecological systems to frame a design practice were explored by landscape architect Ian McHarg in *Design With Nature* (1951). Landscape Urbanism is a logical continuation of McHarg's idea that nature is a set of biological systems and processes that can be analysed, described and evaluated in scientific terms.<sup>18</sup> McHarg takes these ecological systems as the basis for an interpretation of the urban environment, leading to a very simplified understanding of urban topography.

It is worth noting, however, that this is far from novel in thinking about cities – Ildefons Cerdà's Barcelona Extension of 1859 or Patrick Geddes "constructive and conservative surgery" method of 1909 demonstrates a similar approach. Despite Waldheim's claim that landscape urbanism is not an attempt to return to "pastoral nature", it still uses "scientific nature" as the basis for reason. As Latour points out: *"nature becomes knowable through the intermediary of sciences"* (Latour 2004: 4). Waldheim also recognises design as the expertise that employs "scientific nature" in a meaningful way and can bind it to well-being, as it has access to *"environmental processes, ecological functioning and [therefore] health that can clear the ground, the air and the water in the wake of industrialized modernity."* (Waldheim 2011 @ 08:58)

In urban terms, the city becomes a receptacle and source of physical comfort, and well-being and "health" is coupled to nature through designed ecology. By addressing both well-being and the "needs" of nature, "design" attains ethical authority. This is further applied in social and cultural spheres where ethical justice towards scientific nature equates to ethical justice for the city and society. The theory of Landscape Urbanism relies on systemic understanding of natural processes, and expands this into social, economic and cultural horizons. In connection to McHarg, this creates quite a

<sup>18</sup> McHarg can also be seen as precursor to McDonough MBDC and "Cradle to Cradle" referred to in chapter 7.3.1.

narrow definition of social life and the city. In addition, the discussion is mostly theoretical and is never fully elaborated through praxis to address the cultural, social or civic spheres concretely.

In catering for "social values" as part of the "ecological system" of society, it is proposed that a better, more inclusive and ultimately sustainable environment will be achieved. This oversimplification spawns a myriad of (mis)interpretations of the concepts of sustainability and ecology. A purely technological /scientific dictum can be limiting – the accommodation of science does not bring about an ecologically conscious or sustainable topography in the city.

#### **SUSTAINABILITY AND THE CITY**

We are looking for a civic order that allows for a more responsible attitude towards natural resources and more accessible participation by a plurality of publics. Here, we speculate about a possible city that is very different to the descriptions in chapters 7.1 and 7.2, where freedom for commitment has been narrowed towards consumerism and emancipation from responsibility. According to Waldheim this is offered by Landscape Urbanism through nature/landscape by designing *"infrastructural systems and the public landscapes they engender as the very ordering mechanisms of the urban field itself"* in order to manage such disparate issues as *"ecology and engineering, social policy and political process"* (Waldheim in Waldheim ed. 2006: 39, 51).

In the following sections we will use a case of Detroit Future City masterplan (DFC) – a comprehensive development plan– to test the limits of Waldheim's claims that Landscape Urbanism should yield a more sustainable city; a city where resources are used wisely, the environment is healthy, well-being is high, and civic structures are more plural and participatory. DFC is a prime example of these claims, as it states:



In DFC, the main design components are exactly concepts put forward by the Landscape Urbanism in form of landscape and nature as infrastructure. There is myriad of scientific – ecological uses for "stormwater parks, or multiuse parks that combine recreation, community gardens, blue infrastructure and ecological areas" (DFC 2013: 131) to which additionally "social" functions are ascribed.

*Figure 7-49. "Future open space networks in Detroit include both larger landscape typologies and landscape development types integrated within neighbourhoods. Landscape typologies each include a variety of different kinds of landscape development types." DFC 2013: 28*

"Green systems" therefore create an armature of open spaces that bind the rest of the built fabric into a cohesive network (Figure 7-49). This can accommodate change and offer a level of control and management. Socially, "urban gardens" and "artscapes" are areas where people gather and contribute to local society and give meaning to their local community. Concepts of natural agency with social functions become economically suitable strategies in declining cities like Detroit.

*Figure 7-50. "The long-term transformation of Alternative Use neighborhoods hinges on the re-imagination and reuse of vacant land for productive uses or, where there is excess vacant land, returning it to an ecologically and environmentally sustainable state. Large contiguous areas should be assembled under public control for future disposition and productive reuse." DFC 2013: 261*

Examining the "community gardening component" more closely (Figure 7-50); gardening is connected to the local economy and can support varied local businesses and programs – from food markets to local grocery shops and potentially an export operation. In addition, gardening does not require any global engagement to be feasible and therefore does not require engagement by multinationals to be viable; in essence it can be set up purely on the basis of participatory civic commitment of locals.

This short description ticks all the boxes for a well-developed urban scenario that rests upon the imperatives of ecology (natural cycles), economics (flows and flexibility as a network territory) and social inclusion. From a theoretical point of view it could be argued that urban landscaped nature produces a civic order where local inhabitants can be committed, and have both an active role and freedom to participate in decisions.

This all sounds feasible but in order to understand concretely what it actually means and how local empowerment and nature behave as instruments for remediation, the scenario needs to be tested further. As already demonstrated in 7.3.1 the technological requirements of ecology are easy to measure and achieve but civic participation, and civic commitment (other than measured through physical well-being) are much harder matters to account for and evaluate. Just stating and claiming conversations with "civic leaders" (DFC 2013: 6) and drawing a design solution does not assure long-term concrete engagement. The following case study will reveal that the concrete engagement and actual praxis of local commitment is the key quality that assures sustainable development in the first place – something that strategic plans alone cannot deliver.

#### **LIMITS OF URBAN GARDENING**

Urban gardening is repeatedly evoked as a participatory framework that will simultaneously solve social and ecological issues. These ideas appear and reappear, particularly in times of recession to evoke "*citizenship, individual self-help, and patriotism, suggesting that the benefits associated with this effort would last beyond the supported programs.*" (Lawson & Miller in Dewar & Thomas eds 2013: 25)

Through local initiatives and Community Programs, gardens such as the North Cass Community Garden are appearing all over Detroit, (Figure 7-51).

Figure 7-51 North Cass community garden, Midtown, Detroit, Michigan, USA © Martin 2013: 8.

The opportunity is apparent here for a civic order where self-organized, grassroots, community-based projects offer the possibility for local commitment. Constituencies are organized into co-operatives, institutions where individuals can have a say in exchange for work and care of the communal environment (an activity normally done by city services that have disappeared due to budget cuts). This neatly falls into the categories of "sustainable" and "ecological". Food is GMO free, locally grown, locally sold, and food miles are drastically reduced, yet these ecological characteristics are deceptive, suggesting sustainable development in general. The deeper question of how nature and landscape makes cities sustainable is much more complex, and requires further exploration. There are three main areas of concern to illuminate the depth of this problem.

First, the long-term effects of urban gardening on the local community have yet to be determined, since value beyond an immediate personal return and the beautification of public space has yet to be recorded. Initial good intent must be balanced with *"some assurance of a return on investment"* in order to assure long-term commitment of local community; at least for immediate subsistence; reclaiming brownfield land is hard work. (Lawson & Miller in Dewar & Thomas eds 2013: 17-18)

In addition, remediation and reclamation are also different, and the former requires specialist expertise and funds. Despite the claim of local sustainability of urban gardening, the topography of contemporary cities is globally dependent. As with Shinola or the industries of the Soho in London, agriculture cannot be considered solely a local affair. For example, its cyclical nature means that in winter local growers will face increased competition from the global market, particularly amongst urbanites who are used to non-seasonal produce.

This is not to suggest that the whole agricultural effort is trivial rather that the long-term importance of local gardening is less in its quasi-sustainable and ecological value than in its capacity to exploit the ancient relation between "cultivation", "cult" and "culture". It is a social catalyst to create and

maintain communities of engaged people, turning individuals into a public body capable of civic action. It is also an institution that acknowledges ownership and invested effort and through this, organizes the city as a locus for civic participation and commitment. This is a broader understanding of "sustainability".



The importance of local community and grassroots organizations has been proven time and again during periods of decline, like the Victory gardens in the USA, UK and Canada during the First and Second World Wars (Figure 7-52). Gardening emerges when other political and economic mechanisms are not viable.

Figure 7-52. LEFT: WWI-era U.S. victory poster. © Anonymous, 1918, courtesy of Library of Congress. MIDDLE: A victory garden in a bomb crater in London during WWII. © Anonymous n.d, courtesy of Franklin D. Roosevelt Library New York. RIGHT: Victory garden poster, World War II, ©Morley,1945, accessed at Wikimedia in May 2014.

This brings us to the second area of concern: economic sustainability. Urban farming is popular when economic crisis persist and land value is low, "*when the crisis lessens [...] it becomes land to be used as a resource for the "public good", defined narrowly as a site for private development*" (ibid.: 39). Thus the emergent civic topography is threatened by the open market order. This is one of the main problems that the open access order faces: the domain of capital is not balanced with the ethical aspirations of the civic city. It is therefore of crucial importance to give local communities, who have re-established the value of land, rights to and possession of it so that they can be involved in further developments in a meaningful way. If they cannot participate financially and with know-how, they can participate politically, through their claim on the territory. This is one of valuable lessons from village-run communal land politics in Shipai. Only through inclusion and awareness that local communities are a key source of sustainable development can a long-lasting civic order be imagined.

It seems that China, despite problems with corruption, has realized this and already integrated the concept into their policies and governance.

This can be done either by direct communal ownership of the land, or by laws and policies defined by the state or the city. However, as already established in chapter 7.2.1 with the example of unskilled workers whose interests were (not) safeguarded by unions and the welfare state, trusting only in government policies can be treacherous, as the political climate changes too often and follows global economic currents. Having *actual* ownership of the land is potentially much more "sustainable" for the community as *"the garden also helps anchor the term "citizenship" to land rights (collectively) within the city."* (ibid.: 39)

Even though we are talking about a local economy supplying the local market, it needs to be profitable and competitive. The more the local community produces, the more it becomes open to global competition. A possible solution is for allotment co-operations to coalesce into bigger commercial farming initiatives, yet locals do not have the know-how and funds for that scale of farming. Such is an example of a venture capital investment similar to Shinola, by a big investment banking lobby Hantz<sup>19</sup> that *"polarized opinions on whether urban gardening and agriculture should remain a community effort or become a subsidized private venture."* (ibid.: 30). Local farmers are sceptical to be able to compete against a big agricultural producer and are afraid of increasing land value in the city and therefore to be pushed out of urban gardening niche market (Goodyear 2014).

This brings us to the third area of concern – the lack of available know-how, business connections and financial means to develop an added value product from subsistence. Local grassroots garden cooperatives rarely have the knowledge, background, connections, managerial skills or funding to be able to break through the horizon of local engagement of providing only for their immediate needs or selling at a local market. The interviews by Martin (2013) in Detroit CASS community gardens and at the Eastern Market confirm this as their frustration. The local population welcomes newcomers and economic growth, but are also wary of new investments due to questions around who profits. Hantz Farms is a global player and it is hard to see easy links between the two completely different scales of institution. It is obvious that against such resources and professional know-how a local community has little leverage, with the exception of their land rights.

.....  
<sup>19</sup> Hantz is a business financial services conglomerate.

**LACK OF KNOWLEDGE, EDUCATION AND CONNECTIONS**

Even if global players can outmanoeuvre local grassroots initiatives, similar problems with lack of know-how occur at a local political / economic level where communal organizations fail to grasp opportunities. An example of the contrast between local producers' abilities and those of people with know-how of the knowledge economy is young entrepreneur Phillip Cooley. Cooley is the owner of Slows Bar BQ (Figure 7-53), a stylish local eatery for the newly developing creative community in Detroit which sells a fashionable life-style of organic "healthy" food, produced and sourced locally, "creating sustainable jobs and well-being for the local community". Cooley has also opened a co-working space and a "creative incubator" called Ponyride, a few blocks from the restaurant demonstrating development possibilities that play on the local success of the knowledge economy. The presence of the restaurant has prompted gentrification, based on the knowledge economy, -typical of Shoreditch in London, Kreuzberg and Prenzlauerberg in Berlin, and SoHo in New York.

Why are local co-operative food producers unable to achieve such success? Cooley is a young generation entrepreneur who has seen how the new creative industries work, understands what needs to be in place for a successful co-working space and how a stylish eatery should function and should look like. He is well-travelled (he has lived in New York and London) and has a background in real-estate through his family firm O'Connor Realty Inc. which gives him a wider reach, something the local community garden initiative does not have. With his brother he started O'Connor Development Group L.L.C. a local development agency in Detroit<sup>20</sup>. In comparison, local community garden co-operatives do not have these connections, start-up funds or know-how. It is clear that the problem has to do with the ability of individuals to be innovative and entrepreneurial – which emerges both from experience and education. This is rarely accessible to people whose lineage can be traced back to the unskilled workers of mass-production and who are also impeded by the worsening public education available in Detroit.

<sup>20</sup> <http://www.crainsdetroit.com/section/twenties07/cooley> accessed on December 2013.

Figure 7-53 Slows Bar BQ, Corcktown, Detroit, Michigan, USA © Martin 2013:6.

While Ponyride offers profit and non-profit start-up spaces, it does not provide what Komninos describes as "start-up infrastructure" (chapter 7.2.2): the funds, know-how in management, in launching products, connections to multinationals and funding opportunities, things provided to Shinola by Bedrock. This is pure economics, useful for understanding the full metabolism of an urban topography – particularly a vulnerable one. However, it is the deep topography and institutions of the whole urban culture which need to be in place for anyone (grassroots or multinational) to participate in the capitalist city and therefore to potentially fulfil the ideals of civic commitment.

So, ecology and sustainability are more complex than locally produced food and lower carbon miles. Long-term sustainable development can only occur if some of the traits and opportunities that big capital and newcomers have are transferred to the local community. People like Cooley use local conditions as opportunities to help the immediate locality, but as with Shinola, it remains to be seen if that brings any long-term benefits to the local community, or if the effort will turn out to be yet another gentrification model and mostly benefit the newcomers (small-scale and multinational).

The examples above only scratch the surface of a discussion of ecological and cultural questions within the topography of a city. Populist references to ecology and sustainability are grossly simplified and used mainly to further individual agendas. The question of local community is also a delicate one. The argument for engagement of the local community could sound like a hopelessly idealistic attempt to rekindle social justice; yet understanding the need for long-term development, and the capacity of the local community to provide continuity is a strong counter-argument. It also must be realized that any type of local engagement cannot claim global emancipation. As soon as the city becomes economically interesting, better positioned parties will assert their claim. Only through political power through land ownership or perhaps acquiring knowledge and experience will local communities retain civic culture.

### **7.3.3. Conclusion: Displaced Industrial Production**

This chapter has discussed reactions to industrial decline in Detroit, how problems of shrinkage have been addressed and the limits to revitalizing declining industrial cities. It has particularly examined ecology and sustainability as instruments to deal with industrial decline. First, it outlined the possibilities and limits of industrial corporations as carriers of ecological and sustainable development, examining and comparing the River Rouge factory grounds with the locally embedded Detroit start-up Shinola. Knowledge, high-tech production and know-how were exposed as important components of any industrial city in order that a full productive metabolism, from inventions through management to making can operate in reciprocity with a full political metabolism.

Second, we looked at the potential of Landscape Urbanism as a theory that puts forward scientific formatting of nature to address the blighted city. We examined its scientific direction, proposed improvements and examined city-wide initiatives like urban gardening as sustainable mechanisms to remedy the current conditions.

Through this discussion an alienated duality between human and natural agency has been exposed, that we can adduce by Cronon in the example of the wilderness, where *"wilderness embodies a dualistic vision in which the human is entirely outside the natural"*. (Cronon 1996: 80) In this view, human agency is always in conflict with, or is negatively compared to, the divine and unattainable agency of nature. *"We thereby leave ourselves little hope of discovering what an ethical, sustainable, honourable human place in nature might actually look like."* (ibid.: 1996: 81)

The split between natural and human agency is addressed in many different ways. Waldheim's answer is design and a scientific understanding of nature through ecological cycles. This represents a clear limit to scientific understanding, visible in McDonough's eco-revamp of River Rouge. This type of attempt to reconcile nature and human offers little resistance to exploitation, as demonstrated by the funds granted to Ford for this project by the ATVM. The terms "sustainable" and "ecological" are frequently employed to advance one-sided agendas and their meanings have become so fractured that many references to them has become obscure, unclear and biased. For example, as we saw in Waldheim's citations, references to ecology are usually used to appeal to "untainted" nature as part of the moral imperative for health and well-being – what is good for "peopleless" nature must be also good for urban conditions. However, this cannot be further from the truth.

In the industrial conditions of places like Shipai, if human agency is understood in opposition to untainted and unattainable "nature", than the Heideggerian understanding of the formatting of nature as a "standing reserve" can never be reconciled with the natural condition as such. The primary concept of "use" of nature will always be in direct opposition to its very existence. Therefore it is important to recognize that nature is a cultural construct, and that it is the city that represents its most articulated definition. Thus, we should understand nature as part of the human condition and not as an opposition; only then will we be able to seriously attend to the problems of, for example, the use of natural resources. This is easier said than done, as the appetites of politics and economy subdue ethical considerations of nature and the city in favour of short-term solutions that retain the status quo.

In recent popular discourse the word "smartness" has been used to connote a cybernetic system whereby "nature" and "culture" are converted into "information", and managed accordingly. The tendency to approach these phenomena by raising them to ever more abstract levels of conceptualisation makes managing them appear easier (and more profitable for Siemens or IBM); but it is achieved at the cost of reducing cultural or ethical issues to a managed system, depriving them of all substantial content.

Instead of establishing new definitions of nature and culture, we should have a better understanding of the existing ones. The above studies of projects and theories which evoke ecology and sustainability offer a rich context through which to discuss the topography of the city. Through a range of different examples we have drawn a spectrum of understanding of these two concepts that gives us a rich background to better define their capacities and means of employing them, as opposed to setting nature and human in opposition.

#### **GENERAL FINDINGS – ROLE OF INDUSTRY**

Multinational corporations like Ford can address scientific and ecological questions about their production on a technical level. They are able to engage as long as the goals are restricted to technological solutions like sedum roofs, water recycling and upgrading the production process to be more carbon neutral. Yet they fall short of meaningful long-term engagements with the city. Their size and global character liberates them from civic responsibilities to individual cities, even Detroit, where "the Big Three" have such a long history. The limits of their civic engagement are similar to those of governments, and come in the form of funding for "good" projects.

A more nuanced example is found in Shinola, which supports a vivid city topography through the engagement of a global hedge fund corporation. With its strong financial and managerial backing, Bedrock has delivered a new industry and an investment into long-term local knowledge. This is a much more engaged and participatory commitment than Ford demonstrates, but Shinola's policy is not purely benevolent, instead it rests upon a long-term strategy for the economic success of Bedrock.

Although ultimately driven by economic imperatives, Shinola can be seen as a newly revised example of industry as civic pride. It demonstrates commitment to the revival of a "good city", and to creating industry which is a receptacle for commitment, something similar to Ford's Highland Park factory described in chapter 7.1.1. It is also a much-needed catalyst to bind together different spheres of the city (local public, education and production) for a more sustainable future. Shinola's watch making does not require high-level research – and innovation is less important than in the automobile industry. This is one of the main reasons why Ford needs to choose centres with long research tradition where it could be more genuinely committed to the whole urban topography. Perhaps Shinola represents a type of industry that is a precursor to a more serious knowledge based high-tech industry, and could create enough of a basis for the start of an Institute of Technology where the automobile industry could again claim its civic responsibility.

#### ***CAPACITY (FREEDOM) FOR COMMITMENT AND ROLE OF INSTITUTIONS***

Since there is a limit to civic commitment by industries, other city initiatives can potentially support a long-term urban order. The technological and scientific nature that receives the majority of attention by Ford, Waldheim or McHarg is an important contribution to sustainability and ecology; however a more in-depth approach is needed. This has to integrate the concept of institutions as topographic entities in the city to support long-term plural civic order. As established (in chapters 6.1 and chapter 7.1.1) one of the main proponents for a thriving topography is its internal life and the organizations that constitute its collectives (further discussed below).

We have shown how dry and arid the topography of River Rouge is, as well as the current topography of Detroit, although there seem to be kernels of civic commitment through the urban gardening movement. The main quality of urban gardening is not its superficial "ecological" value but rather its institutional value as a framework for commitment. Grassroots initiatives also have to be economically and politically situated to be a viable long-term civic authority for the city. In order to achieve this, these communities need access to knowledge, funding, legislative protection and land rights. One of the biggest hurdles is lack of local know-how to capitalize on the communal effort and local initiatives are unlikely to stay isolated from global markets for long. Only with a head-start in cities like Detroit, where economic interest is low and claim on land and civic participation is not yet taken up by big corporations or other powerful actors, might this initiative have a chance. When the economic prospects of a city start rising, the civic power of the local community declines, demonstrated in Detroit by the examples of Hantz Farm and Cooley's Bar BQ. Local communal efforts are just not equipped with either the capital or the know-how to face such competition. Therefore local authorities should recognize that these organizations also need legislative protection and long-term strategic plans for their development. It is imperative to recognize that a truly

ecological and sustainable approach has to empower local communities and give them knowledge and access to civic commitment, as these are the bases on which change can be creative rather than destructive.

In order for the above claim not to be an emotional plea for social and civic justice, two important qualifications must be recognised. First, this type of sustainable development of the city is at odds with neo-liberal economics. Cities going down this path would not be particularly attractive for capital investment so would need a wider consensus to support such effort. It is important to recognize that long-term sustainability of a city dictates more moderate progress than we are used to from the recent history of economic successes (Detroit and Shipai included). Second, only in times of need and economic downturn, having direct consequences on our well-being, are we able to muster the energy necessary to claim this freedom for civic participation. Complacency and the "good life" provided by consumer culture are much too tempting when put against the continual strife necessary for a true civic politics and engagement.

The closer we get to a suggested solution, more it becomes clear that technological consequences cannot be separated from the topography of the city, from industrialization or from architectural responsibility to the city as such. That is why this chapter concludes with a suggestion for a possible synthesis.

#### ***ETHICAL RESPONSIBILITY TO CIVIC CITY***

The strategic plan of River Rouge shows how ecology through architecture has become a means for capitalization by multinationals. Landscape Urbanism objectifies nature through ecological cycles in order to use the health of landscapes as the basis for design that in turn stands for the health of the city. This should bring about sustainable and just topography, but these topics both miss social and political implications that cannot be addressed through science.

In order to truly talk about the ecological and sustainable development of a city, Landscape Urbanism theories need to address topography in cultural terms, for it is out of these reserves that ethical judgements arise. The city is a common place for living where different parties lay their claims, and only through their variety can we hope to achieve a civic order that is sustainable in the long run. The contemporary city brings about a locus for commitment, where attitudes towards nature cannot be claimed on the basis of capital (Ford's ecologically revamped industrial sheds) or science masquerading as nature, health and therefore well-being (Waldheim's Landscape Urbanism). City, in order to be sustainable, needs a richer variety and understanding of its topography that should not be

boiled down to economic figures, scientific charts for soil classes or flooding charts and plastered over with aesthetically pleasing "design".

The introductory essay by Mostafavi in *Ecological Urbanism* (2009) is an interesting discussion of the progression of the role of architecture, nature and the question of ecology in reference to the city. It stresses the importance of social and cultural attitudes, in addition to the scientific systems that are prevalent in Waldheim.

Mostafavi refers to Guattari's *Three Ecologies* (2000) as a basis for his reasoning. In concert with Latour's wish to politicise the gulf between matters of fact and matters of value, the main shift is the bringing non-scientific (Humanist) disciplines into the realm of ecological discourse on the city. This offers a new reading, one that we have been describing as richness of topography of the city. It also suggests that urbanism and architecture need to regain a more active and participatory role in the city. Only through a richer enquiry that is not limited to scientific discourse can we start to truthfully talk about ethical and socially just civic order.

Architecture and urbanism should not be understood only as disciplines of design or engineering – the role of an architect is not only in catering for physical well-being, efficiency, profit and visual aesthetics, but also for society and culture. This is what Guattari describes as "ecosophy" – an integral approach "*between the three ecological registers (the environment, social relations and human subjectivity) would be likely to clarify [...] the most obvious danger that threaten the natural environment*" (Guattari 2000: 28).

If we want architecture or urbanism to play a significant role in questions of the city, they need to re-acquire their political role (which they historically possessed) in addition to technologically driven understandings of processes, flows and networks. If the plurality that we call a city is made on the basis of political conflicts, it is just as important to recognise that the parties within these acts of reconciliation need to be varied and should have, at least to some extent, a level playing field.

Here, Mostafavi gives a solution to Arendt's hesitations on the role of the public and political in the modern society. This argument is not an emotional one but stems out of awareness that the only long-term and flexible civic order that can claim any level of sustainability will come out of such civic plurality. We need only to refer back to the quotation by Dewar and Thomas in chapter 7.3.2 claiming that the power of local communities and grassroots organizations is exactly in their longevity, as they remain key motors of development within an area, long after for-profit companies leave. As already stated, this poses a significant problem for capitalism – namely, this kind of city is much less economically viable, and hence in current neo-liberal conditions, feasible.

Economical shrinkage is also one of the most relevant questions for Shipai – will it continue to function as a productive industrial landscape, or will it decline? If it declines, how will the shrinkage be managed if there is no funding or economic viability to sustain growth? It seems that properly sustainable urban order is at odds with industrial exploitation and the P&A of rural industrialization in China. We have therefore come to a point that we should turn to speculations and conclusions of this research.

## *PART D. Reinterpretation and Comparison*

### **8. Comparison and Speculation**

So far, we have looked at the history of the industrial city and its ability to establish the capacity of industry as a vehicle for culture. The concluding section contains three thematic chapters. The first sets up the problem through a summary of Parts B and C, drawing together the operative conclusions to prepare the framework for the following two. The second chapter is a speculation on the possible futures for Shipai based on generic urban orders (ways of referring to nature and the city) and case studies of Detroit, Silicon Valley and Third Italy. The third identifies the conditions needed to support a more ethical industrial city.

One of the main topics we investigate is the industry's aptitude to accommodate cultural capacity as opposed to its production capacity. In this sense, we are using the word "utility" to denote the predominant understanding of industry – that of being a functional tool that makes consumable goods. That is not to say that the useful nature of industry – this very same capacity to produce – should be disregarded. The functional aspect of industry, technology or architecture is one of the main capacities that form the city's agency. However, we should not forget industry's cultural capacity, which has been predominantly forgotten and grossly under-appreciated. This is precisely due to firstly, its immense capacity to produce and secondly, due to the scientific understanding of nature that rests upon rational thought, which is constructed through usefulness coveting the importance of function and therefore utility. In this sense, the use of the word "utility" should be understood as referring to the "standing reserve" aspect of any technological artefact, whether it is an industrial machine, or architecture, a computer or a car and at the same time not forgetting that there exists a latent cultural capacity, an "ethical reserve" to every of these artefacts.

#### **8.1. Summary**

##### **8.1.1. Politics of Nature in China**

Dongguan transformed from a rural to an industrial territory in just 30 years. This created immense pressures on agricultural land and has produced a unique topography of negotiation between global capital and local aspirations. Governance is a mixture of local politics and central delegation, interacting at the local level of grassroots Village Committees where power is shared between party officials and elected village representatives. This opens up a grey territory of reconciliation where

personal gains (of villagers, party officials, committee members and investors), local *guanxi* connections, and global capital are intricately intertwined in daily affairs.

The speed of development and political richness has produced a fragmented urban topography. Its main feature is the separation into the regional corridor and a local topography distinguished by the predominant land-uses, program, grain, ownership and participation of players. Here, boundaries between public and private and between local practices and central law are never clear-cut. The organically grown industrial areas offer a particularly interesting area of research. The topographical order negotiating between regional corridor and local topography shows a promising avenue of reconciliation between the contemporary and the traditional orders – the prerequisite for a sustainable future.

Traditional order is based on concrete engagement, praxis and cycles of nature crystalized in practices and philosophies like feng shui and Taoism. However, in light of all the conveniences of contemporary life; the resurgence of Confucianism, feng shui and traditional celebrations (like the Qingming festival) are both a mark of recollection and of modernisation, adapted to present circumstances. Further, the traditional rites and norms that used to be represented by ethical *guanxi* conduct are being used for individual fortunes – a limit of natural state order (North et al. op. cit.) that needs to be balanced. Dongguan is a mature natural state where politics are a mix of open access and limited access condition with moments dependent upon tradition and *guanxi* connections.

In parallel to the traditional topographies, the techno-capitalist order reduces the richness of the natural order to a resource ready for economic capitalisation, abolishing care for the environment, as well as - to an extent - for the community. Techno-capitalist nature is instrumentalized through Heidegger's "Ge-stell" a concept that formats the nature into standing reserve, a flattened species of nature and cultural meaning, ready-made for consumption.

The two orders have fundamentally different attitudes towards the treatment and understanding of nature. In the first, nature is presumed to be authoritative, and the accumulation of references – feng shui, cycles of reciprocity, ancestral worship, and seasonal rites – make it a cultural motif that ranges from agriculture to morals; in the second, the state apparatus and its capacity to manage the techno-capitalist global market have become authoritative. We can follow a shift in registers of importance from the local and concrete to the global and conceptual, from a milieu of analogy and customs to a milieu of comparatively abstract politico-economic calculation. This manifests itself in dramatic transformations of territory like the conversion of rice fields into a meshwork of factories in a few dozen years. Shipai now operates at the supply end of the new milieu – there are no Starbucks, Pradas or even McDonalds – with a typical distribution of a minority in considerable comfort and a majority

displaced from their origins and living just above subsistence. However it is a hybrid condition, with the "conceptual" layer superimposed upon fragments of the traditional order. Such hybrids are not unique to China or the PRD, but its particular manifestation is endemic and, seen from the point of view of its urban topography, it offers a sufficiently differentiated order that its possible maturation into a rich urban order appears to depend more upon imagination and commitment than upon continuous land capitalization.

There is possibly a speculative solution emerging from the intense co-existence of both orders which is a negotiation between capitalisation and tradition where the elite's local obligations – due to hukou household registration system and traditional responsibility to community – are a precondition that assures a modicum of civic rights to villagers; although it also lends itself to favouritism and corruption.

### 8.1.2. Cycles of Industrialization in Recent History

The assembly line is at the heart of much of the techno-capitalist order present in Shipai so the historical case of Detroit is an appropriate comparison – the birthplace of mass production. In Detroit, the unskilled working class surrendered its knowledge to machines and therefore to those who managed and engineered them. The city was constructed on the basis of mass produced objects of consumption, underlined by science. Fulfilment and richness of life can now be measured by physical comfort and obligations to the world of goods, and individual well-being. Factories in the 1940s carried both civic pride and pride in industrial production, however obligations and "right to the city" were refocused to the world of mass produced objects. In contrast, traditional life of the craft society had obligations and rights endowed by responsibility and obligation to community. This type of obligation was given over to institutions like unions, the welfare state and representative democracy. There is no longer individual responsibility to the communal – nor, for that matter is there any direct participation in civic matters. Architecture with its new methodical and streamlined expression becomes a visual representation of this new order.

After mass production radically transformed idea of the city, its decline signalled a world of plurality that did so even more profoundly. A new paradigm in 1980s took charge, where quasi-urban topographies like Silicon Valley are organized on the basis of knowledge safeguarded by patents. The new order of the city still rests upon perpetual cycle of production and consumption but is now based on continual innovation for the sake of ever increased well-being. The world of making and production is being replaced by the world of on one side innovation dependent upon new products of consumption and on the other management and understanding of economic and resource flows of these products created in an artificial and idealized world of the global economy. Consumerism is interpreting personal rights and freedoms as virtues of physical well-being which brings about "public space" a plural generic urban condition devoid of meaning and civic depth of participation. Depoliticization of public is progressing due to the advances in technology mainly committed to utility and also due to neo-liberal changes in economy and politics.

The problem here is offering genuine civic commitment through industry/technology. Industry's capacity for commitment offers consumption and well-being (utility and economics) and potentially, culture (genuine civic commitment). The sequence from "invention" through "manufacturing, making" to the "product, consumption, use" can be interpreted either as a utility-driven phenomenon or as a cultural artefact. For example, research as utility means using the laws of science to produce a consumer product like the Ford model T. Research as civic capacity means understanding the idea of innovation and making like the bridge depicted in the Qingming scroll, where it is not appropriate to speak of a "technology", because the centuries of craft improvements are inseparable from the larger

cultural metabolism of natural materials. There are people with different skills and knowledge, but these cannot be isolated from that which creates the city and its culture as a whole. Research as civic capacity means understanding the idea of innovation and making like the Qingming bridge and its technical details depicted in the scroll to produce culture that is part of situated history – its performance and practising of innovation is the intrinsic substance of the city.

Multinationals expose the connection between ecology, sustainability and civic commitment. For corporations like Ford, their global character liberates them from civic responsibilities to individual cities. The ethics of the city are understood as a problem of science, where carbon emissions are lowered, buildings are designed ecologically and less energy demanding assembly lines drive the sustainable development of the cities. They are strong on the utility side, but rarely able to touch the depth of civic commitment, despite their claims. A more engaged example is the industrial start-up at Shinola. Even though it is driven by its economic imperatives, it can be seen as a revised concept of industry as civic; something similar to the initial Highland Park factory. Even so – we have to acknowledge the global dependency of such efforts – it is illusory to think that global economic players would invest for civic benefit without projections for long-term commercial viability.

Thus, the questions of ecology and sustainability of a city cannot be solved purely on the basis of technology and science, but should be addressed through political and social spheres as well, where the crucial question is how to provide a framework for long-term persistence of commitment of different publics; to re-enact city as a place for reconciliation of conflict. Industrial production alone cannot save the contemporary city – it needs to be, by definition, augmented by locally situated knowledge and know-how for long-term sustainability.

### **8.1.3. Concluding Remarks**

Presently, Shipai topography accommodates four basic activities: production, shipping, management and dwelling, at such a level of intensity that not much else happens. As we have seen, even department stores are concepts of urban topography that are not entirely adequate, as opposed to the local street markets. This streamlined organization geared toward utility is so generic that it can accommodate a variety of functions, which is a benefit – it has the potential to accommodate change and the diverse life that a city needs. Architecture streamlined for production is not a suitable basis for meaning. What gives city structure and meaning are the temporalities – different rhythms of life that inhabit these landscapes. They come with their own sizes, materials, decorum – ways of being in the city that enable a level of conversation, reflection and also understanding – in addition to mere utility and production.

Lately technology has been used to empower utility and well-being and its cultural capacity has been mainly latent. There is no official institution with responsibility for civic culture – rather the reverse; civic culture is the de facto result of whatever competing organisations make of it. To explore if there is any latent capacity for culture and commitment in Shipai's topography, the following chapter examines its future and the capacity of its utilitarian architecture to become a civic, ethical city based on production.

## 8.2. Speculations on Shipai

Here, we use the above conclusions to speculate on viable futures of Shipai and to test these ideas through topography and architectural physiognomy. Shipai is a vehicle to understand and speculate on a general question about the city that is ultimately philosophical and ethical in nature.

A series of urban "worlds" have crystalized during this research, which can be identified in any urban condition, although never by themselves, always in connection with one another. Each generic order is a specific way industry as technology is used to format nature. These orders fundamentally differ in terms of the focus for the creative energies of the city, distinguishing between utility and culture and whether the civic freedom for participation is accessible to one or many elites.

### 8.2.1. Generic Urban Orders

#### *URBAN ORDER OF ONE ELITE*

This is an urban order where one or two multinationals are the owners of huge production facilities. The policies and capital are mainly in their hands, creating a very dry and streamlined order. This kind of order can be seen towards the end of the 1960s in Detroit, or it could be argued that it is present in "production cities" within cities, such as the Foxconn complex of Terry Gou in Shenzhen (Dean 2007) or the Yue Yuen industrial complex in Dongguan (Kaiman 2014). In this type of order, one elite (managers, investors, developers) have an absolute monopoly on the economy and politics in an area, which brings about a mono-cultural urban order, with little variety. This predicament can be observed in any large-scale contemporary development in western cities, like the speculative investment developments of student housing and offices around Old Street roundabout in London. In this type of urban order, the right to the city is connected to land capitalisation secured by stakeholders with the financing and constructional capacity for delivery. In turn, the civic bodies such as borough councils in charge of "developing" cities see themselves in similar terms, imagining that profit will grant them the freedom to do good things in the future, when practice suggests that only more profit will remain the objective. The production sheds in Shipai or housing for students at Old Street roundabout have no other urban meaning than production and servicing. The role of architecture is one of economic utility and efficiency and it lacks the depth to accumulate any other meanings related to ethics or culture.

**URBAN ORDER OF DIVERSIFIED ELITES**

This is an urban order where civic participation is diversified amongst more constituencies. Third Italy (in an open access order) or Village Committees (in a closed access order) are good examples. Individual owners of SME industries in Italy or individual village communities in Shipai have to manage their own affairs. Because of a dispersed claim on the city, capitalization by one powerful constituency (like Ford in River Rouge, or Terry Gou) is not possible. However, reasons for this are different; in China, due to legislation and in Third Italy, due to a neo-liberal model of economy, as the big brands like Prada hire producers on a case-by-case basis – deadlines and production output permitting. Conditionally, we could say that diversified elites are also present in Silicon Valley, where participation is acknowledged through the knowledge and know-how that rests upon ingenuity and good performance. A diversified urban order like the topography of Third Italy has more propensities to be a fertile ground for ethical culture and meaning, based on its practice, mainly due to the fact that production itself is linked to the everyday dealings and life of its owners. Third Italy is dependent upon family, as are to some extent the Shipai village communities.

Independent of the question of singular or plural elites, we can distinguish between urban orders that are dependent upon utility and economics and those dependent on ethics and culture.

**URBAN ORDER DEPENDENT UPON UTILITY**

Predominantly, contemporary urban orders of global economy are dependent upon utility and economics and the majority of efforts go into extraction of "standing reserve" and an obligation to capitalism without long-term commitment to the sustainable and ethical concerns of the city. This order rests upon mathematical abstraction, progress and continual production of goods and services as the most important aspects of the city. Progress is about a better life for everyone using the history of the cyclic rise and decline of the economy as a basis for continual change. Industrial production of goods and well-being are the highest moral imperatives of the just and good city. The order of utility produces cities for pure extraction of economic value from goods, like the industrial areas in Shipai streamlined for P&A industry and contains disenfranchised "public spaces" where communal being is limited to serviceable uses like meeting, fraternising, drinking coffee, eating and exercising. This economic / utilitarian city, emerging from the late 70s onwards, has become a cultural habit that obscures and makes communication with the "ethical reserve" difficult.

**URBAN ORDER DEPENDENT UPON MEANING**

As an opposite extreme to the order dependent upon utility there is an urban order where industrial production and the resource formatting of nature are used to accumulate culture and meaning. This is a more nuanced type of order where humans can understand themselves as morally situated in history and nature. The traditional village in Shipai, the local gardening communities in Detroit and Third Italy SMEs represent this type of order. It is much richer (ethically more just and sustainable) and is sustained more readily under a condition of diversified elites. It maintains a kind of civic life, rich enough to support "institutions of reflection" such as the early enthusiasm for industrial production in Detroit that produced the fabulous murals of Diego Rivera as a cultural receptacle; or the village community centres and decor of a traditional village in China with its carvings, temples and festivals. It casts making as a cultural, rather than utilitarian asset. A serious limit of this order in the contemporary world is the perception that it conflicts with economic value, as it hinges on the realization that the worth of a city should be derived from cultural or philosophical judgment, as well as monetary value. Like "nature", the only way to promote the significance of non-monetary value is through advocating its cause, because land capitalisation and utility are easily defined and politically powerful. A city that can cope well with the whims of shifting capitalist production through adaptation is likely to gain civic loyalty. Therefore the "creative destruction" of Schumpeter does not correlate with cultural "sustainability". The process of renewal depending on meaning is by default gradual and persistent. For example, San Francisco continues to renew itself, despite the fact that long-time residents of its alternative communities are being priced out of their 50-year-old houses by the well-paid employees of Google and Apple (Corbyn 2014).

### 8.2.2. Transformation Scenarios (Speculations)

Having defined a typology of urban orders, we now move to the possible futures of Shipai. They are modelled on the basis of our case studies: Detroit, Silicon Valley and Third Italy respectively. For each scenario the topography is described and evaluated.

#### ***SCENARIO ONE: "SUPREMACY OF CAPITAL" (DETROIT INSPIRED SCENARIO)***

China's SER continues to offer the generalised resource of "cheap labour", which foreign investors (FDI) of various scales mine according to their needs. The major industry as Processing and Assembly (P&A) continues relatively undisturbed. The global demand for cheap dolls, shirts, pants, vacuum cleaners and other products is steady (Figure 8-1). Urban order hinges on a single elite: the foreign direct investors who are connected to local party officials and Village Committee members. There would not be a drastic industrial-ownership monoculture as at River Rouge in Detroit because Shipai is not one of the central investment areas of Dongguan. FDI comes from smaller firms from Hong Kong and Taiwan so the freedom for economic land capitalization is not monopolized by one or two foreign multinationals; rather it is dispersed amongst smaller investors and local producers in the area. A good example is the cardboard factory Hongxu Packing & Printing Co. Ltd (see chapter 6.3) or the Kaiyo Plastic & Metal Products Co., Ltd. factory (see chapter 5.2). Due to this fragmentation there would be "niches" filled in by a local order similar to Third Italy SMEs, where small local producers and entrepreneurial migrants would find a way to work and profit missed by larger foreign investors. A yarn factory, a family run textile producer or luxury box factory (see chapter 6.3) are good examples of such niche topographies. Or Bolchover and Lin's example (2014) of toilet paper factory production that colonises available rooms in the aggregate town, renting floor space from local villagers. The "elite structure" would tend towards a single elite, backed by village TVEs, but still exhibits a vivid but subservient diversified topography of private TVEs augmenting the mono-cultural economic efforts of the main elite.

Nonetheless, this urban order is based mainly on land capitalization and is dependent upon utility. The FDI would probably prevail. People engaged in politics in Shipai would mainly be foreign players, freed from concrete, local responsibility; although Village Committee leaders would have to at least provide some welfare for villagers.

*Figure 8-1. Aerial view of current condition in Shipai. © Tomaz Pipan.*

*Figure 8-2. Shipai after FDI abandons the area. Whole swathes of land become brownfields and fall into disuse. Majority of land is too polluted to use, some is used for gardening. © Tomaz Pipan.*

After 30 years of a status quo between the main elite and small producers, predominantly powered by foreign capital, the production could peak and Shipai would go into decline (Figure 8-2). The reasons may range from a higher priced workforce, due to upward mobility, to a smaller demand due to global economic crisis. Other areas in China with lower wages would become more attractive, which would instigate story similar to Ford decentralization from unionized Detroit in the 1960s. On a global scale, other markets like South America, India and Bangladesh will start to emerge as more economically viable, as labour remains cheap and infrastructure is upgraded. This is precisely how China took the opportunities from Third Italy and the US in the first place. This is a typical industrial rise and decline (Bolchover, Lin 2014: 45), in line with Schumpeterian "creative destruction" doctrine.

Foreign investors in Shipai, as well as multinationals in Detroit, are free from ethical responsibility to provide for the local economy and topography; therefore would retract their funding in search of better business opportunities, in cheaper areas in China as well as globally. Since Shipai is so dependent on foreign direct investment it would suffer a very steep decline. Local elites that had historical and legislative responsibility to local villagers would be powerless to stop the drain of funding. With limited knowledge about management, they would merely be able to accommodate for development but unable to plan for contingencies. They lack the knowledge to plan strategically for a sustainable future of the area. Another factor that would contribute is the spectacular failure of the Eco-Industrial Park. The plan to convert the area into a high tech leader would be hindered predominantly due to a low level of knowledge and technological capacity. After the initial investment in "landscaping" is used for the water infrastructure, the management would fail to attract big multinational firms and investors. The area would become a "developer ruin", stagnating due to underfunding, and not used in any meaningful way to promote and support plans for high-tech development.

Wealthy families (those connected to Village Committees) and managers would leave as opportunities become limited in Shipai and Dongguan in general. The majority of migrant workers would leave, either to other cities or back home to the rural hinterland. Locals without capital would stay, as would a few migrants who had found a niche in the new emptied topography. A few producers and industries from the bottom of the SME tier would remain – the private TVEs and small migrant entrepreneurs would continue to cater for the Chinese market. This local order is likely to be successful to a limited degree, but is a shadow of the original, globally integrated production backed by overseas funds and investments.

The regional corridor would start to shrink and empty. As the workers and investors leave, large amounts of derelict buildings would appear. (Figure 8-2) The majority of industrial estates would go into decline and turn into brownfield, with more than half of the regional corridor too polluted to

sustain any different use. With no more rents and taxes flowing into village treasuries from industrial production, there would not be enough resources to service the infrastructure and the public spaces. Although land could be phytoremediated for later use, it is a long and costly process so the area would be left dormant or used for gardening. The prime focus would probably be the Eco-Industrial park's landscaped area where locals could catch fish and farm rice. Some of the industrial sheds could be converted to small start-ups, based on culture and innovation, although without a direct connection to the global market and with limited know-how they would not be a serious alternative for either cultural or economic long-term and sustainable development of the area. The local topography: historical villages, shaking-hands villages, ponds and banyan trees would also be affected by the decline, but may retain some consistency mainly due to the presence of the local population. Even so, the old villages would start to degrade as the majority of migrant workers leave and local villagers now living in shaking-hands villages would lose their rental income.

Due to the varied claims on the territory the wide constituency base participating in the original topography (villagers, migrants, Village Committee, investors, village TVEs, private TVEs) the area would be unlikely to face such a sharp decline in employment as Detroit. The local rich topography would reduce, but a good portion of lower tier uses would remain. The urban order would shift from pure export-oriented utility to a greater prominence of meaning, mainly due to the fact that remaining players are local communities of villagers, struggling migrant workers and entrepreneurs whose concrete engagement with locality would have a direct consequence on their subsistence. The remaining constituencies would see some ethical value in the area, or would be too poor and lacking in know-how to turn it into a more prosperous opportunity. This has quite a few parallels with the urban gardening phenomenon in Detroit, and to some extent with small producers in Third Italy.

Even though the order would be less dependent on pure capitalization, this would reveal its propensity for a more ethical and sustainable future. The examples that subsist on local self-organization due to economic decline are not good examples for a sustainable development of a new urban order. We need a solution that combines economic success and industrial production as a proactive element of a new ethical reinterpretation of the city.

**SCENARIO TWO: "HI-TECH SUCCESS" (SILICON VALLEY INSPIRED SCENARIO)**

*Figure 8-3: The Eco-Industrial park area is full of new speculative investment, the existing areas of regional corridor and local topography (upper-right quadrant) become more intensively built in comparison to current condition in Figure 8-1. © Tomaz Pipan.*

*Figure 8-4: Speculative investments in the Eco-Industrial park, artistic impression. © Tomaz Pipan for the MA thesis, 2008.*

In this scenario the Eco-Industrial Park, through conferences and management connections to hedge funds and investors is successful in attracting interested parties from home and abroad. Solid FDI for high tech industries is acquired with a commitment to the long-term development of high technology production and affiliated research. Big global companies like 3M as well as home-grown powers like Huawei are conscripted. Local know-how and innovation is fostered in collaboration with Dongguan Technical University, where 3M and Huawei jointly open, for example, a research department for bio-technology and high tech bio materials which contributes to research into bio-engineering and chemistry.

Dongguan becomes a local leader in the knowledge economy, connected to these two fields by successfully following and implementing the 2008-2020 strategic plan for the PRD outlined by the National Development and Reform Commission. The initial support of big multinationals contributes to a general metabolism of start-ups and venture capitalists, fed by university-level bio-tech research. This would create a lively economic environment with a vivid, entrepreneurial and competitive culture with a wealth of investment money. The topography of small research-oriented start-ups would be based on fast turnover of ideas and people with the majority ending in failure and collapse or only limited success with their ideas bought-out or stolen outright, (since intellectual property law in China is so weak), by a larger firm. There may be one or two spinoff companies that secure patents for breakthrough innovations and are later bought out by technological leaders, like Macintosh or Samsung.

*Figure 8-5 Artist's impression of research and high-tech industrial production cluster with offices and industrial buildings at the back.*  
© Dongguan Eco-Industrial Park investment guide 2011: 22

The urban order would predominantly be dictated by research orientated funds and high-tech firms investing in the Eco-Industrial Park (Figure 8-5) where research is capitalized through for example, new high-tech medical products like bio-degradable implants for EKG monitoring. The fast-growing economically and technologically sophisticated urban order would not be compatible with old-type investors from Hong Kong and Taiwan who were involved with plastic moulding or cardboard factories. The topography of varied small village FDI's, with a myriad of local private TVEs, local leaders and Village Committees would not have the knowledge or connections to partake in this ambitious undertaking so would sell their land to the multinationals or become "rent collectors" without any serious political power. The top tier of politics would therefore be narrowed towards a single elite - the foreign multinational companies. They would use local knowledge and the pool of workers to create new ideas and new products for the global market.

The urban order would become progressively more focused on utility. Gentrification would begin and the new educated elite would emerge, committed to utility and economics produced by industry and research. Land capitalization and the formatting of nature as standing reserve would be the dominant measure of value and meaning in this scenario (Figure 8-3, Figure 8-6). It would become harder and harder to get a P&A job, as this type of production would move to economically more advantageous areas.

The regional corridors would become significantly increased and redeveloped with better housing and gated communities (Figure 8-7 Right), by bigger more influential developers. High-tech industrial parks (Figure 8-7, left) would start to replace varied small producers. Golf courses, shopping malls, and global brands like McDonalds and Starbucks would pour into the area. As area gentrified and attracted more affluent and educated people, villagers would benefit from capitalization of their land resources, but at the cost of freedom for participation in the politics of the area. The local topography would become even more dependent on land capitalization due to rising land prices. Local villages and Village Committees would be hard pressed to cater for this new lifestyle, so big investors and developers can build gated housing estates. Local communities, if they act jointly, could negotiate a share of the rent from and manage their existing areas for a small fee (Figure 8-8). Economic pressure to succeed would erase the original villages and substitute them with 6-12 story housing for the lower end of the new city's inhabitants. These would be called "urban villages", where land ownership and management belongs to the villagers or Village Committees, surrounded by the new high-end developments of the regional corridor like examples in Shenzhen. If the local community does not stay cohesive through the managerial skills of Village Committees, the land rights would be sold to developers; with the help of village committees who become wealthy in the process (Figure 8-9 left). Some stubborn individuals, grim from the experience, might cling to their rights as a statement of protest, recovering the traditional way of life and references to the simpler times long gone resulting in "nail houses" (Figure 8-9 right).

*Figure 8-6. Shenzhen intense developer-led landscapes, where land capitalization is the only measure of value. © Google, April 2014.*

*Figure 8-7: LEFT: Ganghua Hi-tech Park, Shenzhen; CENTRE: Luohu district Industrial Park, Shenzhen; RIGHT: Gated community, Shenzhen. © Google, April 2014.*

*Figure 8-8: Gangxia urban village in Shenzhen. © LEFT: all\_my\_loving, panoramio.co, accessed at panoramio.com in April 2014; RIGHT: Google, April 2014.*

Figure 8-9: LEFT: Nail houses – last villagers that have not yet given in to developer pressures. Yangji Village, Guangzhou, China. © Author unknown, accessed at news.163.com in April 2014. RIGHT: Nail house with its garden allotments occupying a lane of the highway – the land ownership of the villager is used for civic protest. Jinhua City, Zhejiang, China. © Author unknown, accessed at news.house365.com in April 2014.

Being realistic, the above scenario is an over-optimistic prediction. Dongguan University of Technology in collaboration with the Shipai Eco-Industrial Park is not a top level pairing like Stanford and Silicon Valley. It is hard to envision such a vivid and unprecedented economic development based on innovation. The knowledge economy is something that requires fostering. In Silicon Valley the culture of research at Stanford University has been accumulating since 1885 whereas the Dongguan (party led) State University was opened in 1992. With more than a 100-year gap in innovation, knowledge and management experience, why even consider this scenario? On the other hand, even if we consider that the shift to service economy is inevitable for China in order to continue the classical growth spiral (and inevitable decline), Shenzhen who some call "Chinese Silicon Valley" is much better positioned to cater for knowledge economy that could be based on making and production (Whitwell 2014).

With all the consumerism and innovation that the world produces already – we do not need another knowledge incubator and it is almost impossible to develop a knowledge-based community from scratch. Instead, Dongguan should foster qualities found in the existing conditions: a diversity of participating constituencies, varied locally governed industrial producers and local knowledge embedded in management and organization. These are valuable assets and can potentially be the basis for a more nuanced long-term development. It might not yield such an economically prosperous urban order, as will become apparent shortly, but it would produce a much more balanced and sustainable topography.

*Figure 8-10: Masterplan of a dispersed strategic development for Shipai. Industrial production, FDI and development of local villages are combined. Education hub in the village and yarn factory within the Eco-Industrial park is combined with a dislocated department of University for research. "Dongguan Organic Cotton" student project, 2012. © Anna Regner, Iwetta Makarewicz, Mariana Ferreira, tutored by Tomaz Pipan.*

The third scenario imagines that the Dongguan development agency managing the Eco-Industrial Park realizes that it will never be a knowledge generator like Silicon Valley. It cannot compete against Silicon Valley or even Shenzhen, where there are more established innovation environments and university culture. Even so, the Eco-Industrial Park is recognized as a significant resource for Dongguan and manages to attract some funding for industrial production; initially mainly P&A, slowly moving into a higher tier as production is oriented towards electronics and optics.

However this level of FDI engagement would not be viable for the operation of the Eco-Industrial Park. The managers would recognise that the topographical variety of Shipai is a good resource for robust development that could be combined with the strategic goals of the Eco-Industrial Park, to foster high technology geared towards ecological efficiency and innovative products. As this scenario needs to be understood as a strategic commitment, collaboration between the Park and local village communities should be established to promote long-term, gradual but sustainable development of Shipai. The collaboration would be a commitment to support and develop local knowledge, based on existing know-how like farming or textiles in order to develop indigenous, specific, industrial products such as high quality yarns (Figure 8-10). This would be powered by research into industrial crops like cotton or hemp and into new processes for producing yarns. This is a more sensible decision, as investment into development of agricultural industrial crops does not require top end research knowledge to yield early results. In addition, it can be paired with academic research from the newly establishing Dongguan Technical University. For example, rudimentary research and development of more drought-resistant cotton crops would be a good starting point for a local university department of agriculture and could lead to a more sophisticated level of research into biology and genetics later on.

On basis of this strategy, a pilot project could be initiated, based on long-term commitment to cultivation of local knowledge, innovation and production. This project aims for sustainable slow progress but diversified development. (Figure 8-11) With a motivated FDI and state support, the "Dongguan Organic Cotton" company could be established in the Eco-Industrial Park. Its aim is to produce high technological yarns and at the same time empower local textile SMEs instead of favouring global brands and so avoiding the Prada example in the Third Italy scenario in chapter 7.2.

*Figure 8-11: Metabolism of the sustainable strategic plan for the Shipai area where foreign investment in Eco Industrial Park is augmented by university research and product opportunities in collaboration with local villages through their know-how, labour and education. "Dongguan Organic Cotton" student project, 2012. © Anna Regner, Iwetta Makarewicz, Mariana Ferreira, tutored by Tomaz Pipan.*

3

*Figure 8-12: Industrial hub for yarn factory combined with vocational school and research centre for new cotton strains. Local Hub with management school for SMEs and tailoring vocational school. "Hemp In" student project, 2012 © Mirka Bergk, Julia Domanska, Stefanie Lennartz, Charlotte Reh, tutored by Tomaz Pipan. Additionally reworked by Tomaz Pipan for purposes of this illustration.*

An important part of the company could also be a vocational school education into yarn production and management and organization courses for textile SMEs. In addition, the park in collaboration with Dongguan University could focus on research and patenting of new strains of cotton, or patenting of the production process for better yarns. Textile manufacturing would be interspersed amongst local villages where under the company umbrella, village committees set up local management support hubs, education centres and retail and wholesale distribution of finished products (Figure 8-12). These then become lively hubs of local life and commitment. This uses production and industry as something that cultivates local knowledge and culture and is a structured working system for textile factories and homeworkers, allowing them to gain control over a part of the textile chain. SMEs are family-run enterprises, where textile making is part of the everyday life. Culture would be constructed on this basis.

*Figure 8-13: LEFT: Local hub with school RIGHT: Eco-Industrial Park cotton fields combined with eco-tourism. "Dongguan Organic Cotton", student project, 2012. © Anna Regner, Iwetta Makarewicz, Mariana Ferreira, tutored by Tomaz Pipan.*

Similar reciprocal metabolisms could be set up, based on other products and existing industries. Research into bamboo pulp for bio plastic can be paired with production of new plastic products that service high-tech industry. This would diversify the area's focus and make it more robust to accommodate change better. There exists a similar industrial topography in Shipai amongst existing industrial producers, but without any overarching strategic goal for development toward high-tech industry, or to long-term commitment. There is no connection to research or innovation and no support in terms of education, management or funds from the global research market.

The urban order described above involves plural participation of different elites (developers, local producers, park management, individual producers, Village Committees, investors from abroad and researchers) in order to create a robust topography where different players can participate in civic commitment (Figure 8-13). This is only possible if there is a balance between utility and an ethical understanding that political commitment should be given to many parties in order to accommodate sustainable development. Due to SME-sized production and research rooted in local knowledge, urban order becomes dependent upon meaning, in addition to utility. It is recognized that the value of

local knowledge and the type of culture it produces is an important component of sustainability, similar to local gardening communities in Detroit.

In the above outline, it is important to point out a serious limit of such optimism. Under such conditions, the economic value of the areas is significantly reduced compared to the city geared towards pure economic utility. The economic value is forfeited in favour of long-term, gradual development and the capacity for flexible adaptation and change. The only way for a city to become more sustainable is to forfeit its strong affiliation to utility. This is a question of ethics and the growth of culture around local knowledge and identity. This crucial realization about the importance of ethics in the question of the city is explored in the concluding chapter.

### 8.3. Industrial City and its Ethical Capacity

The above scenarios give us an overview of a range of possible topographical orders in a city centred on industrial production. Together with the case studies into Silicon Valley, Detroit and Third Italy these are the basis for our enquiry into the reinterpretation of civic industrial order. The following chapter explores industry as a means for the ethical interpretation of nature. A sustainable civic order that is more ethical means that it is more fair and just to wider constituencies and allows wider access to freedom for commitment. It also supports the more stable and long-term development of an area.

The main goal of the concluding chapter is to identify fruitful conditions for "civic industry" in terms of its structure and nature. We will firstly frame industry's capacity for cultural commitment and secondly frame what needs to be in place for that commitment. This is done through two general themes: first through the question of land capitalization and utility of industry, and second through the question of commitment, complacency and well-being.

Cities give a definite direction to nature, and Shipai is a microcosm, where the question is framed as: to what are our cities committed? Since cities are a mirror of society, we ultimately ask: to what are our cultures and we as human beings committed? We can observe in the cases above that industry enables the city to be used well for goods production, land capitalization and economic gains; but it is less clear if its capacity is equally well used in other meaningful ways that could tap into the latent ethical and cultural reserve. This is an elementary question of dignity and ethics that can be answered by asking how we spend our energies. If contemporary cities from China to the United States are observed, then it seems that efforts of creativity and strife are mainly used to serve consumerism and well-being. "Supremacy of Capital" and "Hi-Tech Success" are certainly model examples of that tradition. On the other hand, "Sustainability is a Commitment" demonstrates an alternative, but also talks about the amount of ethical and cultural effort needed to achieve it.

#### 8.3.1. Industry as Cultural Reserve

By definition, industry's main purpose is utility – it produces cars, phones, clothes. It constantly surpasses itself by improving and reinventing itself, destroying what came before. This Schumpeterian cycle of creative destruction is the basis for culture that is grounded in the importance of novelty as a predominant measure of quality and meaning.

This utilitarian capacity is the main reason that technology, and more explicitly industrial production, have been hijacked to serve well-being. This has become extremely pervasive in all spheres of the contemporary city, in its appearance, life and conduct. It is evident in everyday life, emptied of

meaning other than well-being, where commitment is focused on deciding on a colour of Nike shoes or a size of "mocha latte macchiato" at Starbucks. Similarly, the production of architecture is mainly focused on satisfying physical needs. Historically, as the example of Tangwei village in Chapter 6.3 demonstrates, a building's position, ornamentation, and size was fundamental to village life, people's conduct and values, meaning, and ultimately ethics. Tangwei village's water well represents the eye of a crab, signifying its place in both the natural and cosmological order, as well as the topography of the village, yet today the significance of water to human beings has been reduced to an engineering problem of plumbing. In the same way, industry has been reduced to its capacity "to produce", shedding its cultural significance as "making". All the horizons of engagement that constitute architecture and culture have also been subdued, flattened and partially forgotten. I am not arguing that religious and supernatural meaning should be pinned to technological solutions or that *Shishi* Guardian Lions should be added to industrial compound entrances (chapter 5.2.6). But is the current predicament, where technology only serves physical needs of utility, supported by economy and consumerism, "all that the city can be"? If industry is to contribute to a new civic order and contribute to culture, this must be radically rethought.

Moments in history when industry elicits commitment and urban prowess are rare, but telling. Most prominent are the times of novelty, when a certain innovation radically changes a city, like mass production in Detroit, which enabled a completely new way of life for the working class. Industries like Ford's Highland Park exemplified that ideal and became receptacles of civic pride. In the more distributed and local example of Third Italy, SMEs are intricately involved in civic life and show a capacity to adapt production across a range of scales. Whilst the lowest tiers of Third Italy operate at subsistence level, the middle and upper ranges contribute significantly to Italy's international fashion, furniture and food reputation. A Milan trade fair does not embody the explicit civic quality of Rivera's Detroit Murals; but the *Arte Povera* movement (1967-1972), made a substantial contribution to re-thinking middle-class modes of dwelling and representation. On the other hand, the overly optimistic novelty embedded in Highland Park is neither sufficiently profound nor concretely connected to civic life, and so quickly loses its capacity to sustainably support culture.

Favourable conditions for a "civic industry" that could produce a long-lasting cultural capacity need to be found elsewhere than subsistence or perpetual novelty. If industry can be a cultural resource, then it must be understood in its "situated horizons". Its utilitarian capacity "to produce" needs to be balanced by its capacity "to cultivate". For this there are two important conditions.

First, industry and production should be understood within the wider context of making, as part of a chain from research, through production to use. The "Sustainability is a Commitment" scenario outlined above is such example, where local know-how about agriculture informs production of new

yarns and better cotton crop strains. The example also suggests the possibility of recovering sensitivity to seasons, to natural conditions, as well as to the virtues of commitment to the locale and the (potential) civic order in which it lives. Only by understanding industry as part of innovative culture, and understanding making-and-doing as an intrinsic part of that culture can industrial production (re)acquire the cultural value that has, in the neo-liberal world been attributed solely to innovation. This is found in the "Hi-Tech Success" scenario where the majority of production and making is suspended in favour of research. In contrast, we can invoke the "insourcing boom argument" where GE water heater production became cheaper in US than China due to collaboration between making know-how and innovation (Fishman 2012). This has an important relevance for the value of making as cultural practice. An understanding of industrial production as disconnected utility – as in Shipai – will never provide this level of cultural embodiment, and is the reason for the likely decline in the "Supremacy of Capital" scenario, above. There, industrial production decoupled from local cultural meaning suddenly migrates, and with it its utilitarian culture.

Second, the whole production chain from research to consumption is still predominantly geared towards utility. This is so successful that it has ousted any other type of measure and understanding of the city. To consider the latent ethical qualities of industrial production, the grip of the culture of perpetual innovation and destruction has to be challenged by ethical considerations that allow for culture that is accumulated, rather than discarded and created anew. More concretely, this means acknowledging qualities like plurality of access, importance of local knowledge, importance of work and production and giving these qualities an equal, or at least significantly higher value than they have currently in respect to utility. Only this profound change in our ethical attitude can allow technology to regain its cultural ability and serve as an ethical capacity of the city. That would be a substantial cross-generational effort, and would require according significance to "cultural memory" (something hard to achieve in a culture that always forgets its past). This may sound idealistic, but economic capitalization and subsistence cannot be a common arena to address fundamental questions of civic culture. And this has another serious consequence; in a more egalitarian order where culture is accumulated, development will never be as economically efficient as are the economically driven alternatives; however it will be more humane, ethical, sustainable and inclusive. The "Sustainability is a Commitment" scenario illustrates this well.

Contemporary culture is constructed on a very thin horizon of subsistence, function and utility. One of the major reasons is that technology's and industry's productive capacity can be so readily kidnapped by the economic imperatives due to its default utilitarianism. Even so, industry and technology have proven to have a substantial capacity to support a cultural interpretation of a city but this capacity is rarely employed and is problematic in its articulation, and the embodiment of that articulation in

practice. As we cannot prescribe theory-based policies for "better ethics" – what we can do is define favourable conditions that enable it.

### **8.3.2. Favourable Conditions**

One of the main incarnations of industrial and technological utility is land capitalization as the predominant understanding of nature. Like developers in London building new student housing and office spaces, so Village Committees in Shipai cater predominantly for rent extraction from their industrial land. This is narrow and unsustainable and a flattening of cultural meaning that is so pervasive that it has become the norm in the contemporary city. Challenging the domain of capital is difficult and we are hard-pressed to facilitate more ethical formulations of commitment directly. Instead, it is possible to identify favourable conditions that lead towards a more ethical interpretation of nature. This sub-chapter will identify two main problems we are facing in achieving a more ethical civic order. It will also suggest conditions that would help diminish them.

#### ***PROBLEM 1: CAPITALIZATION OF SINGLE ELITE***

If economy accounts for the majority of commitment of cities; it is staggering to observe how much of this is commanded by multinationals (Ford in 1940s Detroit, developers in contemporary London, FDI through Village Committee leaders and party officials in Shipai) – and by singular elites rather than plural ones. One of the most notable is the case of River Rouge where exploitation was mainly in the domain of one privately owned multinational industrial producer that had weak ethical commitment to a specific topography, which had devastating consequences. Therefore, the first set of favourable conditions has to be equal and open opportunities for wider constituencies to contribute and shape the civic order through political and economic rights. This should include those players that have long-term claims to certain territory and its topography. Even if change and value is still based on utility and land capitalization, it needs to support a more plural civic order.

#### ***CONDITION 1: PLURALITY OF CIVIC PARTICIPATION***

There are two important considerations about plurality of civic order. First, plurality of civic participation is not generally understood in enough depth. The Western definition is of "Vox Populi" where civic plurality is expressed as communal participation in voicing individual opinions about everyday life. This type of "plurality" can quickly be degraded to utility and well-being, framed in terms of the particular wants and needs of individuals, without taking into account conflicts, trade-offs and the larger ethical order. The atomization of the public sphere, described in 7.2.2 "Topography of Innovation Flow City" is beneficial to multinationals because it allows their capacity for focused

action and their huge resources to be better positioned to act politically. Second, North et al.'s claim is that open access states offer a more ethical civic order mainly because all citizens have the right to form organizations and are able to become politically active through many different institutions (North et al. 2009: 22, 25). However, as we established in 7.3.1 "Limits of Multinational Companies as Civic Partners", the problem is not in forming the organizations and institutions as such. Instead it is an issue of which organization, and which elites have the political power to drive change and decision-making, and therefore participate and shape the civic order. In neo-liberal cities, the state has forfeited its right to manage this political aspect of a civic city and handed it over to the most committed participants; namely multinationals, developers, bankers, hedge funds, etc. This has a fundamental impact on the ethics of any civic order.

It seems that the "open" access condition of the neo-liberal city is at odds with itself in terms of being "open" as there are no mechanisms to prevent the plurality being diverted towards well-being and political capacity being taken by most committed of the elite. Here, it is significant to note the example of Village Committees, where local level governance is supported by pervasive state control that assures more plural local involvement (even though corrupt). It goes against established preconceptions, but it seems that China is capable of providing a mixed construct that accommodates a variety of civic participation at different political and topographical scales while retaining state cohesion. This enables steady development and the promise of long-term sustainable order in the "Sustainability is a Commitment" scenario as the political power of the local population is recognized through Village Committees that conduct policy jointly with the Eco-Industrial park.

Yet changing only the number of constituencies does not yet assure that they will be ethically committed to that civic order and that culture will be based on anything other than utility. In order to facilitate sustainable development and an ethically responsible urban order land capitalization should be balanced with the city's capacity to cultivate urban culture and in so doing make the monothematic economic argument accountable to ethics.

#### ***PROBLEM 2: UTILITY NOT ACCOUNTABLE TO ETHICS***

The pervasive flattening towards utility creates a fundamental problem in the orientation of cities. The key aspect of culture is a problem of meaning, and how we participate in this meaning determines our ethics. Therefore, if the majority of our participation is focused towards consumerism and well-being; should we understand that our ethics is exclusively defined by utility? At the same time, the power for political commitment is exclusively measured through economic capital and therefore vested in CEOs, politicians and developers. This type of civic power seems to do little for profound meaning of our culture. If patronage of Lorenzo di Medici in fifteen-century Florence was a fertile ground for the

likes of Michelangelo permanently defining the culture not only of Florence but of the Western world, it is hard to see Lloyd Blankfein (CEO of Goldman and Sachs investment bank) undertaking some equally profound contributions to the depth and meaning of our culture.

The answer to a more ethical culture lies in addressing the question of commitment and the direction of that commitment. It is important to recognize that the basis for a more ethical civic order and sustainable topography is to enable conditions where plural commitment to deeper ethical questions (other than those of utility) can take precedence more readily. That is difficult, especially in a society where commitment is so radically focused towards consumerism and material well-being creating a complacent public as long as basic rights to physical subsistence are met. Perhaps the question of an accountable ethical order rests on a participatory public, whose commitment other than utility should be assured through practice, policies or preferably both. What are then conditions that could support this more politically committed public?

#### ***CONDITION 2: COMMITMENT AND COMPLACENCY***

Commitment and complacency (apathy) are reciprocal. In today's plural, atomized world, it is hard to talk about "commitment" or "complacency" in general as they are on one side "directional" – oriented towards certain fields or topics – and on the other "dispersed" – as the same constituencies will not always be committed to the same topic. Therefore creating conditions for a more ethical and sustainable order does not mean assuring overall plurality across the board, as that is virtually impossible. It means recognizing and evaluating the capacity of urban topography and its articulation to enable piecemeal access to meaningful civic participation for various participants. Such an agonistic topography – the institutionalisation of conflict – on which the most creative democracies have always been based – needs to assure perpetual negotiation instead of prioritising the neo-liberal claims of single elite.

Civic commitment of one elite and the complacency of others is a by-product of the utilitarian orientation of the contemporary city. Despite North et al.'s support of the open access state, the neo-liberal city functions as a machine where the civic rights of the majority are forfeited precisely due to the fragmentary plethora of institutions that have little significant civic or political power. How is a local community supposed to be a politically equal partner to a multinational if they are in dispute over land rights? How is a single villager going to fight the Village Committee for the right to a say, and a bigger share of profits? On rare occasions this is achieved, but requires significant effort, time and money and huge commitment of individuals, in addition to their daily responsibilities of work. Instead, people predominantly settle for complacency as long as their personal well-being is not immediately threatened. However, in order to support an urban order that is more readily accountable

to ethics, we need to consider how to make plural ethical commitments more widely accessible, practiced and valued. For Hayek, ownership is the key:



In other words, ownership depends upon a legal framework, which is a collective creation. Law is basis for understanding who grants rights to whom, or where claimable rights come from. With laws defining ownership, city-creation becomes something like the creation of law, with its roots in practical, moral life, dealing with problems of negotiation as the basis for speculation on the ethical meaning of the city. Civic conduct in disputes (be it in Village Committees, in courts, on the street) is based in practice and represents the cultivation of being-human-together. In these conditions, conflict manifests itself as a matter of setting one's disputes within a context dependent upon rhetorical conventions instilled in law, which are in turn dependent on history, poetry, metaphor; connecting ownership, and in our case land ownership, to the ethical claim to the city.

In other words, land ownership represents a source of commitment that through the above chain of practice constitutes part of culture and topography. Plurality of access to this ownership would be a good condition for a more ethical interpretation of a civic order. Although some critique of North et al.'s definition of the open access state has been outlined, one concept is hard to dismiss. The capacity for "*rich and vibrant civil societies with lots of organizations*" (North et al. 2009: 11) is fundamental for civic commitment. However, to achieve this, there are two fundamental conditions that need to be fulfilled. The first is articulating and instilling civic responsibility (through interaction with ethics, history, tradition and law e.g. through land ownership). The second is accommodating and allowing this civic responsibility to be practiced and nurturing its long-term plurality. These conditions can be fulfilled on the basis of North et al.'s idea of open access to various institutions and organizations.

### **8.3.3. Sustainable and Ethical Civic Order**

It seems that "traditional" China has kernels of articulation for plural ownership in place, while Western neo-liberal cities possess the ability for practicing plural access (even if is mainly in utility).

Shipai and Chinese law are a good basis for land ownership; however it is problematic when it comes to establishing a plurality of independent institutions. A strong overall policy delegated by central

government supports a plurality of ownership, which in turn also enables a varied industrial and production topography. At the same time, this topography lacks the ability, know-how and ethical and historical precedents to fit its "political landscape" with a more open-ended participatory conduct. At the moment, the civic order is predominantly "practiced" through a status quo between party officials and Village Committees, based on family lineage. In contrast, in Third Italy the problem is the reverse, it lacks the articulation of a strong policy that would allow SMEs to be competitive against multinational players like Prada (Hadjimichalis 2006 – EU Multi-Fibre Agreement ended in 2004). However, the area is laced with family run SMEs that have a vivid life of civic negotiation, almost like a mercantile city, which creates a unique topography. Again, a different story is Detroit, as it miserably fails on both accounts; the neo-liberal policies award one elite an almost exclusive right to political commitment, creating a dry topography that is prone to failure. During the course of this research, it has been impossible to find an account of a topography that supports both conditions at the same time.

The task therefore is clearer than it initially seems. In order to provide for a sustainable civic order it is important to ensure both conditions can prosper. One of the ways to do that is to provide different sized "niches" for political commitment that can fit only specific constituencies and accommodate the whole palette of participants at different scales: from individuals, SMEs to big multinational companies, and at the same time not to allow all these gaps to be filled simultaneously by only one constituent such as Ford.

The solution to a more sustainable and ethical civic order is to enable and elicit the non-complacent committed participation of different topographical constituencies, and through a condition of open access give them the opportunity to form various organizations that accommodate that commitment. A good start is the land ownership that already exists in Shipai. This means that, for example, Terry Gou cannot establish a complete hegemony creating a "production theme park" like Foxconn in Shenzhen (Figure 8-14) where the topography is completely streamlined to a single utility. At the very least, central policies must enable plurality in the size and number of constituencies, and prevent companies like Foxconn from forming such enclaves in the first place.

*Figure 8-14: LEFT: Foxconn Shenzhen campus in 2007. © Dean 2007. RIGHT: Foxconn Shenzhen campus in 2014. © Google, May 2014.*

However, we have still not addressed the disparity between culture and utility – the question of industry as a carrier of ethical civic order. It seems this is supported to some extent when industry is formatted as SMEs – varied clusters of production themes or crafts and guilds. It is likely that industry and production as a civic locus are most coherent under guilds – a craft-based culture; next are the SMEs and the least coherent are the dry monothematic topographies of multinational firms. The proposed "niche concept" would be most useful when it enabled a predominantly SME-sized and craft-sized urban order, with occasional larger multinational players. The smaller size of players and their variety would bring about commitment dependent upon culture more readily than the topography of big multinationals.

However that does not guarantee "high culture" and works of art like Rivera's or Michelangelo's; it does not yet bring about galleries, museums and the variety, richness and depth that comes with a mature city. In order to have that level of richness predominantly based on industry, there would need to be a fundamental change from a culture based on creative destruction to one based on accumulated experience. Perhaps Third Italy's example shows a good direction but is not developed enough to support all that richness within its topography. On the other hand the above scenario "Sustainability is a Commitment" based on Third Italy example, where topography is presumed to also include research connected to local knowledge and to one or two larger investors, has the potential for a kind of civic life rich enough to support institutions of reflection, like a university with humanities, as well as intermediate phenomena like galleries and workshops, where exchange between craft and high-tech or digital production is possible. Industry, when understood within the larger framework of innovation and making, has the potential for its utilitarian and cultural meanings to have equal value, and could be the basis of an ethical reinterpretation of nature, and a mature and sustainable civic order.

## 8.4. Concluding Thoughts

This thesis has sought to liberate urban topography and its architectural articulation from the control of the dominant neo-liberal condition and to convert it into a resource for understanding the city through ethical renewal.

The question of ethical order is one of political agency, and in recent times political agency is primarily based on economic power. Architecture also has an agency, through which questions about the ethical urban order of a range of topographies have been framed. It provides the setting for political life, enabling the praxis of the various people who form its constituencies. The connection between topography, architecture and politics is never a clear one and there is no theory of social justice that can adequately reconcile the political and the topographic. In this thesis, this connection has been treated through examination of the layers of phenomena – the communicative order and stratification of articulations. Somewhere between the accommodation of custom and habit (such as the Village Committee's responsibility to community) and upper end of articulate thought (economy and capital) is a setting for a political discourse. This discourse is, by definition, a matter of praxis in that topography; of negotiations rooted in layers of day-to-day phenomena that are too deep and embodied to be narrowed down to logical systems, or their problems addressed solely by technological means.

Architecture is an expression of urban topography and urban topography provides the conditions and settings where urban order takes place. The transformation scenarios of chapter 8.2 show how the stratification of articulations in Shipai's topography affects its future. These scenarios are not design-driven solutions, or models that claim to communicate with the politics of space, but rather deal with specific metabolisms. They use the communicative order of the topography to test architecture as a setting for political discourse. Shipai's topography provides a unique architectural setting, and the capacity to mediate between official institutions and local small organizations. This is based on personal rites and therefore supports a wide, mixed participation and political commitment. Shipai has an exceptional capacity to support the "Sustainability is a Commitment" scenario, in which a middle ground is found between capitalist and grassroots orders. It is a heterogenic form of agency that uses bits of capitalism, local and civic initiative and individual aspiration to achieve economic viability. In the contemporary world, it is hard to ignore capital as an influence on political power; but it is possible to make it more equally accessible. This has the potential to be a sustainable and long-term solution for the development of the city, in contrast to the ubiquitous investor-developer-officials triangle. It creates a city that is morally strong, but adaptable.

The situated, unorthodox condition in Shipai brings to the forefront the importance of culture, its praxis and its capacity as an antidote to the simplification of life to a utility-based, technological project. Ethics cannot be a product of experimental science, or managerial thinking. Instead, a good city has to favour the situations in which committed and potentially profound communication can take place. This has two important implications. First, "research" and "industrial production" cannot be questions merely of science, but must have embodied connections in the humanities as well. Second, the concern of urban design and architecture cannot be form, solely for its own sake. It must also understand form as a setting for institutional horizons for praxis, and that architecture has the capacity to reveal and affect the claim of natural conditions upon our freedom.

## PART E. References

### 9. Glossary of Terms, Acronyms and Abbreviations

<i>ancestral worship</i>	In China, ancestral worship is one of the most persistent traditional customs that is a basis for the people's moral and ethical conduct as well as for later philosophies such as Confucianism.
<i>ATVM</i>	Advanced Technology Vehicles Manufacturing (ATVM). The Loan Program is a \$25 billion direct loan program funded by Congress in fall 2008 to provide debt capital to the U.S. automotive industry for the purpose of funding projects that help vehicles manufactured in the U.S. to meet higher mileage requirements and lessen U.S. dependence on foreign oil. (Wikipedia, accessed in December 2014)
<i>CCS</i>	College for Creative Studies, Detroit, Michigan.
<i>CSCPCO</i>	China State Council Population Census Office.
<i>Dasein</i>	A concept defined by Heidegger (1962). A mode of being that understands its own being through situated experience in the world.
<i>danwei</i>	Simplified Chinese: 单位; traditional Chinese: 單位; pinyin: dān wèi. A name given to the place of employment – a work unit in the city. An urban equivalent to the worker's communes in the countryside.
<i>Daoism</i>	Philosophical, ethical and religious practice of cosmic harmony between the human, the natural and the heavenly. One of traditional branches of thought and practice in China reconciling human, natural and cosmic.
<i>desakota</i>	Regions of an intense mixture of agricultural and non-agricultural activities that often stretch along corridors between large city cores.
<i>DFC</i>	Detroit Future City. DFC Strategic Framework is a highly detailed long-term guide for decision-making by all of the stakeholders in the City.
<i>Dongguan</i>	Chinese: 东莞 pinyin Dōng guān. A prefecture-level city in central Guangdong province, China.
<i>ecosophy</i>	A combination of words Ecology and Philosophy defined by Guattari (2000). It provides for an ethico-political and ethico-aesthetic articulation in three ecologies or three ecological registers: the environment (or nature), social relations and human subjectivity.
<i>ethical reserve</i>	A concept derived as a response to Heidegger's "Standing Reserve" (1977). It considers the capacity of technology for ethical and cultural agency as opposed to the utilitarian production quality.
<i>FDI</i>	Foreign Direct Investment.
<i>feng shui</i>	Coded system of practices as a set of norms for favourable placing of a village within its natural setting. Based on feng shui, villages and market towns developed as integral parts of the natural environment. The knowledge within feng shui is defined and retained through analogical examples.
<i>floating population</i>	Term used for migrant workers in Chinese industrial cities. Migrant workers are never part of Chinese official census of local population due to their <i>hukou</i> status. This brings about economic and social sciences distortions that are a topic of much debate in popular academia and media.
<i>Fordism</i>	An economic and social system that is based on mass production pioneered by Henry Ford in Detroit in 1920s.
<i>Ge-stell</i>	A concept developed by Heidegger (1977). Translated "enflaming", Ge-stell represents a formatting of the world; a basis for reason and understanding. For example: natural sciences represent a typical enframing that "formats" nature in a way to be instrumentalized and used for a particular purpose.

<i>Guangdong</i>	Simplified Chinese: 广东; traditional Chinese: 廣東; pinyin: Guǎngdōng. is a province on the South China Sea coast of the People's Republic of China. Formerly known as Canton or Kwangtung in English, Guangdong surpassed Henan and Sichuan to become the most populous province in China in January 2005, registering 79.1 million permanent residents and 31 million migrants who lived in the province for at least six months of the year; the total population was 104,303,132 at the 2010 census, accounting for 7.79 percent of Mainland China's population. (Wikipedia, accessed in December 2014)
<i>guanxi</i>	Guanxi describes the basic dynamic in personalized networks of influence, and is a central idea in Chinese society. In Western media, the pinyin romanization of this Chinese word is becoming more widely used instead of the two common translations—"connections" and "relationships"—as neither of those terms sufficiently reflects the wide cultural implications that guanxi describes.
<i>HFHS</i>	The Henry Ford Health System (HFHS) is a comprehensive, integrated, non-profit, managed care health care organization located in Metro Detroit. The corporate office is in Detroit, Michigan. Henry Ford established the health system in 1915, and it is currently run by a 24 member board of trustees. (Wikipedia, accessed in December 2014)
<i>hukou system</i>	Simplified Chinese: 户口簿; traditional Chinese: 戶口簿; pinyin: hùkǒu bù. Hukou is a household registration system that was common practice for a centrally managed economy. However, in 1958 the hukou started being used as an official instrument to control movement of people between rural and urban areas. The urban and rural hukou defined person's rights and responsibilities. In the Maoist times urban hukou meant urbanites got a significant share of rights and welfare provisions such as state grain, employment, schooling, medical care and pensions. On the other hand, peasants had to largely provide for themselves due to their connection to the land.
<i>limited access order</i>	A concept defined by North et al. (2009). See a binary <i>open access order</i> . A political system where problem of violence is solved by creating rents. Individuals and groups with access to violence have incentives to cooperate. The political system uses rents and limited access to these rents to sustain order. Relationships are personal. There is limited access to organizations.
<i>matters of concert</i>	A concept defined by Latour (2004). It refers to a world view where every claim can be contested and should be part of open discussion where all constituencies, human and non-human, have a voice and equal right of representation
<i>matters of fact</i>	A binary of the above, also defined by Latour (2004). It refers to a traditional way of constructing a worldview where certain ideas were treated as truths and therefore outside culture. An example is scientific reason based on technology which is always taken as a priori fact, without questioning its value or morality.
<i>MBDC</i>	McDonough Braungart Design Chemistry (MBDC) is a firm founded in 1995 by world-renowned architect William McDonough and chemist Dr. Michael Braungart. They are co-authors of <i>Cradle to Cradle: Remaking the Way We Make Things</i> (2002).
<i>mingong</i>	pinyin derived word for migrant workers. Chinese民工, pinyin: Míngōng
<i>OECD</i>	Organisation for Economic Co-operation and Development.
<i>open access order</i>	A concept defined by North et al. (2009). See a binary <i>limited access order</i> . Social order is created and sustained through both economic and political competition and a rich political civil society. In addition, one of the most important features is "impersonal exchange" and "impersonal benefits" as opposed to the elite system, where these are only available through personal connections.
<i>organic law of village committees</i>	Chinese: 中华人民共和国村民委员会组织法; pinyin: Zhōnghuá Rénmín Gònghéguó cūnmín wēiyuánhui zǔzhīfǎ. The Organic Law of Village Committees sets the rules and regulations under which the Chinese villagers may govern their villages as well as terms and conditions for village elections. After a trial implementation in 1987, the Organic Law of Village Committees was fully adopted in 1998 by the National People's Congress of China. (Wikipedia, accessed in December 2014)

<i>P&amp;A</i>	Processing and Assembly. A labour intensive industrial process of assembly of product components. The majority of world electronic and other products is assembled in China. Dongguan is one of the major urban areas for P&A.
<i>PRC</i>	People's Republic of China.
<i>Qingming scroll</i>	Chinese title 清明上河圖, pinyin: Qīngmíng Shànghé Tú, is most commonly translated as "Along the River During the Qingming Festival". The scroll and the Qingming festival are both examples of time-out-of-time, offering reflective insight into the values of the depicted culture and its concrete engagement with nature.
<i>R&amp;D</i>	Research and Development. A type of corporate or government production that is based on innovation safeguarded by patent law. It is the predominant production of the West and is the higher capital value of production as opposed to the Processing and Assembly which is assembly of the new innovated products.
<i>scientific management</i>	Is a theory of management postulated by Frederick Winslow Taylor (1919). It analyses and synthesizes workflows. Its main objective is improving economic efficiency, especially labour productivity. It was one of the earliest attempts to apply science to the engineering of processes and to management. (Wikipedia, accessed December 2014)
<i>SER</i>	Special Economic Region. Abbreviation created by the author to avoid confusion with the Special Economic Zone (SEZ). SER are expanded regions of special economic policies around original SEZs.
<i>SEZ</i>	Special Economic Zone. On the 11th Plenary Session of Central Committee of PRC in 1978, the Chinese government decided to reform the socialistically planned economy by opening up specific carefully selected areas to overseas markets. SEZs facilitated economic exchange between China and global markets featuring favourable laws to attract foreign investors and producers
<i>shanai yibu</i>	Literally "three supplies and one compensation" – refers to a flexible contractual arrangement between Hong Kong investors and their Dongguan partners, under which the Hong Kong investor supplied raw materials, equipment, and blueprints for what was to be manufactured, while the Dongguan partner provided labor, land, and other logistics necessary for manufacturing. At the end of the year, the Hong Kong investor would pay a processing fee to the Dongguan partner as a compensation for all the costs incurred in the manufacturing process (Lin 1997: 37).
<i>Shenzhen</i>	Chinese: 深圳, pinyin: shēn zhèn. A major city in the south of Southern China's Guangdong Province, situated immediately north of Hong Kong Special Administrative Region.
<i>Shipai Town</i>	Chinese: 石排鎮, pinyin: Shípái. An administrative level town under the jurisdiction of Dongguan prefecture-level city in Guangdong province, southern China.
<i>shishi dragons</i>	The Shishi dragons traditionally guarded the entrances to palaces, temples and homes of distinguished officials. In traditional times, people believed that lions had protective capabilities.
<i>standing reserve</i>	A concept developed by Heidegger (1977). A way in which nature is configured in order to be (ab)used again and again for any purpose needed within the realm of the natural sciences. It is a way of formatting of nature through the "Ge-stell" of sciences.
<i>Taylorism</i>	See <i>scientific management</i> .
<i>tijanjing</i>	A modification of the traditional courtyard house, modified especially for the southern Chinese [climatic] conditions. (Hammond in Knapp ed. 1992: 100)
<i>TVE</i>	Town Village Enterprise. These are a business construct that emerged all over rural China, from inland regions to coastal provinces, encompassing the entire rural landscape.
<i>urban village</i>	An endemic Chinese urban typology – traditional village that was encompassed by the new speculative developments; hi-rise housing, central business districts and / or industries. Due to land rights connected to <i>Hukou</i> , these villages are indicators of strength of local politics.

## 10. Bibliography

- Agnew, J, Shin, M & Richardson, P 2005, 'The Saga of the "Second Industrial Divide" and the History of the "Third Italy": Evidence from Export Data', *Scottish Geographical Journal*, vol. 121, no. 1, pp. 83–101.
- Ahn, BJ 1975, 'The Political Economy of the People's Commune in China: Changes and Continuities', *The Journal of Asian Studies*, vol. 34, no. 3, pp. 631–658.
- Allen, S 1999, 'Field Conditions', in *Points + Lines: Diagrams and Projects for the City*, Princeton Architectural Press, New York, NY, pp. 92–102.
- Almy, D (ed.) 2007, *Center On landscape urbanism*, Center for American Architecture and Design, University of Texas at Austin School of Architecture, Austin, TX.
- Amin, A & Thrift, N 2002, *Cities: reimagining the urban*, Polity, Cambridge, UK.
- Arendt, H 1958, *The human condition*, University of Chicago Press, Chicago, IL.
- Aureli, PV 2011, *The Possibility of an Absolute Architecture*, MIT Press, Cambridge, MA.
- Bagnasco, A 1977, 'Tre Italia. Problematiche dello sviluppo italiano', *La problematica territoriale dello sviluppo italiano*.
- Benedict, JT & Selden, M 1998, 'Agrarian Transformations in China and Vietnam', *The China Journal*, no. 40, pp. 37–58.
- Bernstein, A 2000, *CliffsNotes Rand's Atlas shrugged*, IDG Books Worldwide, Foster City, CA.
- Bolchover, J & Lin, J 2014, *Rural urban frameworks: transforming the Chinese countryside*, Birkhäuser, Berlin, Germany.
- Boyd, A 1962, *Chinese architecture and town planning, 1500 B.C.-A.D. 1911*, University of Chicago Press, Chicago, IL.
- Branzi, A 2006, *No-stop city : Archizoom associati*, HXX, Orléans, France.
- Briggs, A 1965, *Victorian Cities*, University of California Press, Oakland, CA.
- Bucklow, S 2009, *The alchemy of paint: art, science and secrets from the Middle Ages*, M. Boyars, London, UK; New York, NY.
- Burns, J 2009, *Goddess of the market: Ayn Rand and the American Right*, Oxford University Press, New York, NY.
- Carl, P 2006, 'On depth: particular and universal, fragment and field', in B Bergdoll (ed), *Fragments: architecture and the unfinished : essays presented to Robin Middleton*, Thames & Hudson, London, UK.
- Carl, P 2011, 'Type, Field, Culture, Praxis', *Architectural Design*, vol. 81, no. 1, pp. 38–45.
- Carl, P 2012, 'Praxis Horizons of Involvement', in D Chipperfield, K Long, & S Bose (eds), *Common ground: a critical reader*, Marsilio ; Publishers Group UK [distributor], Venice, Italy; Enfield, UK, pp. 67–81.
- Carl, P 2014, 'Convivimus Ergo Sumus', in Stenberg & Steiner (eds), *Architecture and Phenomenology*, Ashgate Publishing, Farnham, UK.
- Castells, M 2000, *The rise of the network society* 2nd edn, Blackwell, Oxford, UK.
- Chan, KW & Buckingham, W 2008, 'Is China abolishing the hukou system?', *The China Quarterly*, vol. 195, no. 01, pp. 582–606.
- Chang, LT 2010, *Factory girls: voices from the heart of modern China*, Picador, London, UK.
- Cicero, MT 2011, *De Oratore. Book III*, Cambridge University Press, Cambridge, UK; New York, NY.
- Corbyn, Z 2014, 'Is San Francisco losing its soul?', *The Guardian*, accessed May 20, 2014, from <<http://www.theguardian.com/world/2014/feb/23/is-san-francisco-losing-its-soul>>.
- Corner, J (ed.) 1999, *Recovering landscape: essays in contemporary landscape architecture*, Princeton Architectural Press, New York, NY.
- Cronon, W (ed.) 1996, *Uncommon ground: rethinking the human place in nature*, W. W. Norton, New York, NY.
- Daskalakis, G, Waldheim, C & Young, J (eds) 2001, *Stalking Detroit*, Actar, Barcelona, Spain.

- Dean, J 2007, 'The Forbidden City of Terry Gou', *Wall Street Journal*, accessed January 23, 2013, from <<http://online.wsj.com/article/SB118677584137994489.html.html>>.
- Dean, J & Tsai, T-I 2010, 'Suicides Spark Inquiries', *Wall Street Journal*, accessed June 10, 2014, from <<http://online.wsj.com/news/articles/SB10001424052748704026204575267603576594936>>.
- Dewar, ME & Thomas, JM 2013, *The city after abandonment*, University of Pennsylvania Press, Philadelphia, PA.
- DFC 2013, *Detroit Future City: 2012 Detroit Strategic Framework Plan* 2nd edn, Inland Press, Detroit, MI, accessed June 30, 2014, from <[http://detroitfuturecity.com/wp-content/uploads/2014/02/DFC\\_Full\\_2ndEd.pdf](http://detroitfuturecity.com/wp-content/uploads/2014/02/DFC_Full_2ndEd.pdf)>.
- Disney, W 1944, *The Amazon Awakens*, Walt Disney Studios, accessed August 9, 2013, from <<http://www.youtube.com/watch?v=Pe83FcC9AkW&feature=>>.
- Dongguan Eco-Industrial Park 2011a, 'Eco-Industrial Park investment guide' (English version).
- Dongguan Eco-Industrial Park 2011b, 'Eco-Industrial Park presentation booklet' (Chinese version).
- Engels, F 1845, *The Condition of the Working-Class in England in 1844 with a Preface written in 1892*, Otto Wigand, Leipzig, Germany.
- Fishman, C 2012, 'The Insourcing Boom', *The Atlantic*, accessed July 18, 2013, from <[http://www.theatlantic.com/magazine/archive/2012/12/the-insourcing-boom/309166/?single\\_page=true](http://www.theatlantic.com/magazine/archive/2012/12/the-insourcing-boom/309166/?single_page=true)>.
- Flahault, F 2012, 'Ayn Rand's Promethean myth', *Le Monde diplomatique*, accessed July 18, 2013, from <<http://mondediplo.com/2009/01/19myth>>.
- Ford Motor Company n.d., *Ford Rouge Centre*, Ford Motor Company, Dearborn, MI, accessed from <<http://corporate.ford.com/doc/sr12-2004-frc-brochure.pdf>>.
- Ford Motor Company 2008, *Ford motor company business plan: Submitted to the senate banking comeettee*, Ford Motor Company, Dearborn, MI, accessed December 30, 2013, from <[http://online.wsj.com/public/resources/documents/Ford\\_Motor\\_Company\\_Business\\_Plan122008.pdf](http://online.wsj.com/public/resources/documents/Ford_Motor_Company_Business_Plan122008.pdf)>.
- Foster, JB & McChesney, RW 2012, 'The Global Stagnation and China', *Monthly Review: An Independent Socialist Magazine*, vol. 63, no. 9, pp. 1–28.
- Friedmann, J 2005, *China's urban transition*, University of Minnesota Press, Minneapolis, MN.
- Gabbatt, A 2012, 'Foxconn workers on iPhone 5 line strike in China, rights group says', *The Guardian*, accessed May 29, 2014, from <<http://www.theguardian.com/technology/2012/oct/05/foxconn-apple-iphone-china-strike>>.
- Gadamer, HG, Weinsheimer, J & Marshall, DG 2004, *Truth and method*, Continuum International Publishing Group, London, UK; New York, NY.
- Galey, J 1979, 'Industrialist in the Wilderness: Henry Ford's Amazon Venture', *Journal of Interamerican Studies and World Affairs*, vol. 21, no. 2, p. 261.
- Geertz, C 1973, *The interpretation of cultures: selected essays*, Basic Books, New York, NY.
- Ginsburg, NS, Koppel, B & McGee, TG 1991, *The Extended Metropolis: Settlement Transition In Asia*, University of Hawaii Press, Honolulu, HI.
- Glaeser, EL 2011, *Triumph of the city: How our greatest invention makes us richer, smarter, greener, healthier, and happier*, Penguin Press, New York, NY.
- Golany, G 2001, *Urban design ethics in ancient China*, E. Mellen Press, Lewiston, NY.
- Goodyear, S 'A 140-Acre Forest is About to Materialize in the Middle of Detroit', accessed January 6, 2014, from <<http://www.theatlanticcities.com/neighborhoods/2013/10/140-acre-forest-about-materialize-middle-detroit/7371/>>.
- Grandin, G 2009, *Fordlandia: the rise and fall of Henry Ford's forgotten jungle city*, Metropolitan Books, New York, NY.
- Great Britain War Office 1949, 'China (Kwangtung province)', GSGS 4691, London UK.
- Guattari, F 2000, *The Three Ecologies*, Athlone Press, London, UK.
- Guldin, GE (ed.) 1997, *Farewell to peasant China: rural urbanization and social change in the late twentieth century*, M.E. Sharpe, New York, NY.

- Hadjimichalis, C 2006, 'The End of Third Italy As We Knew It?', *Antipode*, vol. 38, no. 1, pp. 82–106.
- Hansen, V 1996, *The Beijing Qingming scroll and its significance for the study of Chinese history*, Journal of Sung-Yuan Studies, Dept. of East Asian Studies, University at Albany, Albany, NY.
- Hayek, F. & Bartley, WW 1988, *The fatal conceit: the errors of socialism*, Routledge, London, UK.
- Heidegger, M 1962, *Being and time*, Blackwell, Oxford, UK.
- Heidegger, M 1977, *The Question Concerning Technology, and Other Essays*, Garland Publishing, New York, NY; London, UK.
- Ho, SPS 1995, 'Rural Non-Agricultural Development in Post-Reform China: Growth, Development Patterns, and Issues', *Pacific Affairs*, vol. 68, no. 3, pp. 360–391.
- Hu, B 2007, *Informal institutions and rural development in China*, Routledge, London, UK.
- Huang, Y 2008, *Capitalism with Chinese Characteristics Entrepreneurship and the State*, Cambridge University Press, Cambridge, UK.
- Italian Institute for Foreign Trade 1989, *Italy: the unique role of its local economies*, Italian Institute for Foreign Trade, Rome, Italy.
- Kaiman, J 2014, 'Strike spreads at Chinese supplier to Adidas and Nike', *The Guardian*, accessed June 9, 2014, from <<http://www.theguardian.com/world/2014/apr/22/strike-spreads-chinese-supplier-adidas-nike-yeu-yuen-factory-jiangxi-guangdong>>.
- Keynes, JM 1936, *The General theory of employment interest and money*, Macmillan, London, UK.
- Knapp, R (ed.) 1992, *Chinese landscapes : the village as place*, University of Hawaii Press, Honolulu, HI.
- Komninos, N 2002, *Intelligent cities: innovation, knowledge systems, and digital spaces*, Spon Press, London, UK; New York, NY.
- Koolhaas, R 1978, *Delirious New York: a retroactive manifesto for Manhattan*, Monacelli Press, New York, NY.
- Koolhaas, R & Chang, B (eds) 2001, *Great leap forward*, Taschen, Kölen, Germany.
- Kuntz, PG & Grinnell College 1968, *The Concept of order*, Published for Grinnell College by the University of Washington Press, Seattle, WA; London, UK.
- Lai, W 2004, *Industrial clusters and local competitiveness: a case study of Dongguan, China* MPhil Thesis., Hong Kong University, Hong Kong, accessed from <<http://hdl.handle.net/10722/31693>>.
- De Landa, M 1997, *A thousand years of nonlinear history*, Zone Books, Brooklyn, NY.
- Latour, B 2004, *Politics of Nature: How to Bring the Sciences into Democracy*, Harvard University Press, Cambridge, MA; London, UK.
- Latour, B 2005, *Reassembling the social an introduction to actor-network-theory*, Oxford University Press, Oxford, UK; New York, NY.
- Le Corbusier 1986, *Towards a new architecture*, Dover Publications, New York, NY.
- Le Corbusier & Jeanneret, P 1964, *Œuvre complète, 1910-1929*, Éditions d'architecture; distributed by Wittenborn, Zurich, Switzerland.
- Leng, TK & Zhu, Y 2010, *Dynamics of Local Governance in China During the Reform Era*, Lexington Books, Lanham, MD.
- Liao, HF 2008, *Industrial cluster of Taiwanese electronics firms in Dongguan, China* MPhil Thesis., Hong Kong University, Hong Kong, accessed from <<http://hdl.handle.net/10722/51634>>.
- Lin, GCS 2006, 'Peri-urbanism in Globalizing China: A Study of New Urbanism in Dongguan', *Eurasian Geography and Economics*, vol. 47, no. 1, pp. 28–53.
- Lin, GCS 2011, 'Urban China in transformation: Hybrid economy, juxtaposed space, and new testing ground for geographical enquiries', *Chinese Geographical Science*, vol. 21, no. 1, pp. 1–16.

- Lin, GCS 1997, *Red capitalism in south China growth and development of the Pearl River Delta*, UBC, Vancouver, Canada.
- Lin, GCS 2001, 'Metropolitan Development in a Transitional Socialist Economy: Spatial Restructuring in the Pearl River Delta, China', *Urban Studies (Routledge)*, vol. 38, no. 3, pp. 383–406.
- Lin, GCS 2009, *Developing China: Land, Politics and Social Conditions*, Routledge, London, UK.
- Marshall, A 1890, *Principles of economics*, Macmillan, London, UK.
- Martin, H 2013, *DIY Detroit Design Thesis Case Studies*, London Metropolitan University, London, UK.
- MBDC 2013, *Beyond sustainability*, McDonough Braungart Design Chemistry, LLC (MBDC), accessed December 13, 2013, from <[http://www.mbdc.com/wp-content/uploads/2012/12/MBDC-Brochure\\_2PageLayout\\_130609.pdf](http://www.mbdc.com/wp-content/uploads/2012/12/MBDC-Brochure_2PageLayout_130609.pdf)>.
- McDonough + Partners 2011, 'The Making of the Next Industrial Revolution at Ford Motor Company', accessed from <[http://www.c2cproducts.com/images/FordInitiatives\\_11\\_0428.pdf](http://www.c2cproducts.com/images/FordInitiatives_11_0428.pdf)>.
- McDonough + Partners 'Ford Rouge Center Landscape Master Plan', accessed March 11, 2014, from <<http://mcdonoughpartners.com/projects/ford-rouge-center-landscape-master-plan/>>.
- McDonough, WJ & Braungart, M 2002, *Cradle to cradle: remaking the way we make things*, North Point Press, New York, NY.
- McHarg, IL 1951, *Design with nature*, Doubleday / Natural History Press, New York, NY.
- McLeod, M 1983, "'Architecture or Revolution": Taylorism, Technocracy, and Social Change', *Art Journal*, vol. 43, no. 2, pp. 132–147.
- Merleau-Ponty, M & Smith, C 2002, *Phenomenology of perception*, Routledge, London, UK.
- Miller, A, Martin, C & Kerr, S (eds) 2007, *Kerb Landscape Urbanism*, RMIT University Press, Melbourne, Australia.
- Morris, W 1882, *Hopes and fears for art*, Ellis & White, London, UK.
- Mostafavi, M & Doherty, G 2009, *Ecological urbanism*, Lars Müller Publishing, Baden, Switzerland.
- Nietzsche, FW 1896, *Thus spake Zarathustra: a book for all and none*, Macmillan, New York, NY.
- North, DC, Wallis, JJ & Weingast, BR 2009, *Violence and social orders a conceptual framework for interpreting recorded human history*, Cambridge University Press, Cambridge, UK; New York, NY.
- OECD 2013, *The People's Republic of China – Avoiding the middle-income trap: Policies for sustained and inclusive growth*, Organisation for Economic Co-operation and Development, Paris, France, accessed June 9, 2014, from <<http://www.oecd-ilibrary.org/content/book/9789264207974-en>>.
- Oi, JC 1999, 'Two decades of rural reform in China: An overview and assessment', *The China Quarterly*, vol. 159, no. 1, pp. 616–628.
- Peng, Y 2001, 'Chinese Villages and Townships as Industrial Corporations: Ownership, Governance, and Market Discipline', *American Journal of Sociology*, vol. 106, no. 5, pp. 1338–1370.
- Piore, MJ & Sabel, CF 1984, *The second industrial divide: possibilities for prosperity*, Basic Books, New York, NY.
- Plunz, R 1999, 'Detroit is Everywhere', *Architecture Magazine*, vol. 85, pp. 55–61.
- Poon, C 2002, *A comparative study of the pattern and model of economic development between Dongguan and Shunde MA Thesis*, Hong Kong University, Hong Kong, accessed from <<http://hdl.handle.net/10722/40634>>.
- Porter, ME 1998, 'Clusters and the New Economics of Competition', *Harvard Business Review*, vol. 76, pp. 77–90.
- Porter, ME 2000, 'Location, Competition, and Economic Development: Local Clusters in a Global Economy', *Economic Development Quarterly*, vol. 14, no. 1, pp. 15–34.
- Pugliese, SG 2004, *Fascism, Anti-Fascism, and the Resistance in Italy: 1919 to the Present*, Rowman & Littlefield Publishers, Lanham, MD.
- Quivik, FL 2002, *Rosie the Riveter National Historical Park, Ford Assembly Plant*, Historic American Engineering Record, Washington DC, WA, accessed from <<http://www.loc.gov/pictures/collection/hh/item/ca3339/>>.
- Rand, A 1957, *Atlas shrugged*, Random House, New York, NY.

- Rellensmann, L 2010, 'Otto Haesler: der Provinz-Radikale', *BauNetzWoche*, no. 199, pp. 4–13.
- Reuters 2010, 'Foxconn worker plunges to death at China plant: report', *Reuters*, accessed June 10, 2014, from <<http://www.reuters.com/article/2010/11/05/us-china-foxconn-death-idUSTRE6A41M920101105>>.
- Rossi, A & Eisenman, P 1982, *The architecture of the city*, MIT Press, Cambridge, MA.
- Rowe, C & Koetter, F 1978, *Collage city*, MIT Press, Cambridge, MA.
- Rowe, PG 1997, *Civic realism*, MIT press, Cambridge, MA.
- Rusco, F 2011, *Report on Advanced Technology Vehicle Loan Program Implementation*, Diane Publishing, Collingdale, PA.
- Ryan, BD & Campo, D 2013, 'Autopia's End The Decline and Fall of Detroit's Automotive Manufacturing Landscape', *Journal of Planning History*, vol. 12, no. 2, pp. 95–132.
- Sassen, S 1991, *The global city: New York, London, Tokyo.*, Princeton University Press, Princeton, NJ.
- Sassen, S 2012, *Cities in a world economy* 4th edn, SAGE / Pine Forge, Thousand Oaks, CA.
- Saunders, D 2010, *Arrival city the final migration and our next world*, Knopf Canada, Toronto, ON.
- Schuman, M 2013, 'Can China Escape the Middle-Income Trap?', *Time*, accessed June 9, 2014, from <<http://business.time.com/2013/03/12/can-china-escape-the-middle-income-trap/>>.
- Schumpeter, JA 1942, *Capitalism, socialism, and democracy*, Harper & Brothers, New York, NY; London, UK.
- Scott, AJ 1988, 'Flexible production systems and regional development: the rise of new industrial spaces in North America and western Europe', *International Journal of Urban and Regional Research*, vol. 12, no. 2, pp. 171–186.
- Sennett, R 1974, *The Fall of public man*, Penguin Books, London, UK.
- Shen, X & Ma, LJC 2005, 'Privatization of rural industry and de facto urbanization from below in southern Jiangsu, China', *Geoforum*, vol. 36, no. 6, pp. 761–777.
- Sieverts, T 2003, *Cities Without Cities: An Interpretation of the Zwischenstadt*, Routledge, London, UK.
- Skinner, GW 1977, *The City in late imperial China*, Stanford University Press, Stanford, CA.
- Snyder, S 2006, 'Chinese Traditions and Ecology: Survey Article.', *Worldviews: Environment Culture Religion*, vol. 10, no. 1, pp. 100–134.
- Sorensen, CE 2006, *My forty years with Ford*, Wayne State University Press, Detroit, MI.
- Spencer, D 2012, 'No Room for the Weak: Form, Process and the Existential Territory of Landscape Urbanism', *Critical Grounds*, accessed June 3, 2013, from <<http://terraincritical.wordpress.com/2012/05/17/no-room-for-the-weak-form-process-and-the-existential-territory-of-landscape-urbanism/>>.
- Sugrue, TJ 1996, *The origins of the urban crisis: race and inequality in postwar Detroit*, Princeton University Press, Princeton, NJ.
- Sui, DZ & Zeng, H 2001, 'Modeling the dynamics of landscape structure in Asia's emerging desakota regions: a case study in Shenzhen', *Landscape and Urban Planning*, vol. 53, no. 1–4, pp. 37–52.
- Sun, H 1998, *Foreign investment and economic development in China: 1979-1996*, Ashgate Publishing, Farnham, UK, accessed June 28, 2014, from <[http://www.ashgate.com/pdf/tis/9781840143546\\_ROW.pdf](http://www.ashgate.com/pdf/tis/9781840143546_ROW.pdf)>.
- Tatom, J & Stauber, J 2009, *Making the metropolitan landscape: standing firm on middle ground*, Routledge, New York, NY.
- Taylor, FW 1919, *The principles of scientific management*, Harper & Brothers, New York, NY; London, UK.
- The Economist 2014, 'China loses its allure', *The Economist*, accessed June 9, 2014, from <<http://www.economist.com/news/leaders/21595001-life-getting-tougher-foreign-companies-those-want-stay-will-have-adjust-china>>.
- Time Inc. 1940, *LIFE* 19. August 1940., Time Inc., New York, NY, accessed from <<http://books.google.com/books?id=gEkeAAAAMBAJ>>.
- Time Inc. 1942, *LIFE* 16. March 1942., Time Inc., New York, NY, accessed from <<http://books.google.com/books?id=gE4EAAAAMBAJ>>.

- Time Inc. 1945, *LIFE* 25. June 1945., Time Inc., New York, NY, accessed from <<http://books.google.com/books?id=YUgEAAAAMBAJ>>.
- Time Inc. 1958, *LIFE* 15. December 1958., Time Inc., New York, NY, accessed from <<http://books.google.com/books?id=YD8EAAAAMBAJ>>.
- Time Inc. 1959, *LIFE* 28. December 1959., Time Inc., New York, NY, accessed from <<http://books.google.com/books?id=eIUEAAAAMBAJ>>.
- U.S. Department of Energy 'Ford Motor Company: Eligibility for ATVM', accessed June 29, 2014, from <<http://energy.gov/lpo/ford-motor-company>>.
- Unger, J & Chan, A 1999, 'Inheritors of the Boom: Private Enterprise and the Role of Local Government in a Rural South China Township', *The China Journal*, no. 42, pp. 45–74.
- Venturi, R, Scott Brown, D & Izenour, S 1972, *Learning from Las Vegas*, MIT Press, Cambridge, MA; London, UK.
- Vesely, D 2004, *Architecture in the age of divided representation: the question of creativity in the shadow of production*, MIT Press, Cambridge, MA; London, UK.
- Voegelin, E 1956, *Order and history*, Louisiana State University Press, Baton Rouge, LA.
- Voegelin, E & Hallowell, JH 1975, *From enlightenment to revolution*, Duke University Press, Durham, UK.
- Walcott, SM 2003, *Chinese science and technology industrial parks*, Ashgate Publishing, Farnham, UK.
- Waldheim, C 2002, 'Landscape urbanism: a genealogy', *Praxis*, vol. 4, no. 10, pp. 10–17.
- Waldheim, C (ed.) 2006, *The landscape urbanism reader*, Princeton Architectural Press, Princeton, NJ.
- Waldheim, C 2011, *Design on the Delaware Keynote Address*, AIA Philadelphia, Philadelphia, PA, accessed June 5, 2013, from <<http://vimeo.com/45066525>>.
- Walker, R & Buck, D 2007, 'The Chinese Road: Cities in the Transition to Capitalism', *New Left Review*, vol. 46, no. 1, pp. 39–66.
- Whitwell, T 2014, 'Inside Shenzhen: China's Silicon Valley', *The Guardian*, accessed June 13, 2014, from <<http://www.theguardian.com/cities/2014/jun/13/inside-shenzhen-china-silicon-valley-tech-nirvana-pearl-river>>.
- Williams, R 1958, *Culture and society, 1780-1950*, Chatto & Windus, London, UK.
- Wong, S 2014, 'Yue Yuen Resumes Production at Dongguan Factory After Strike', *Bloomberg*, accessed June 10, 2014, from <<http://www.bloomberg.com/news/2014-04-28/yue-yuen-resumes-production-at-dongguan-factory-after-strike.html>>.
- Wu, F (ed.) 2007, *China's Emerging Cities: The Making of New Urbanism*, Routledge, London, UK.
- Yeung, G 2001, 'Foreign direct investment and investment environment in Dongguan Municipality of Southern China', *Journal of Contemporary China*, vol. 10, no. 26, pp. 125–154.
- Zhao, SX. & Wong, KK. 2002, 'The sustainability dilemma of China's township and village enterprises: an analysis from spatial and functional perspectives', *Journal of Rural Studies*, vol. 18, no. 3, pp. 257–273.