Cartographical sources for urban morphological research in China

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Abstract. *The use of cartographical sources is fundamental to understanding urban landscapes. Despite the increasing amount of research on the changing physical form of Chinese cities, knowledge of the sources and access to them remain poor. True ground plans showing streets, plots and building block-plans are rare. This paper highlights the importance in urban morphology of the use of those limited cartographical sources that are available in China, including their use in conjunction with field surveys and other sources of information.*

Keywords: urban form, cartography, ground plan, field survey, China

Research in urban morphology is heavily reliant on both direct observation of urban forms and various representations of those forms – for example, in maps and plans, building and planning applications, fire insurance plans, photographs, taxation records, deeds and street directories. Arguably the most important single source is ground plans.

An urban ground plan can be defined as the two-dimensional topographical arrangement of an urban built-up area in all its man-made features. It contains three distinct complexes of plan elements: streets and their arrangement in a street system; plots and their aggregation in street blocks; and buildings or more precisely their block-plans (Conzen, 1962, pp. 383-4). Among these three complexes, plots in most cities arguably provide the most basic type of information for analysis, at least at the micro-scale: most larger areas in the urban landscape are aggregations of plots. They are the 'containers' of building forms and land use, and their cartographical analysis is a significant basis for urban morphological research at most geographical scales. Such analysis has been undertaken in many parts of the developed world, especially within Europe and North America (Moudon, 1986; Scheer, 2001; Slater, 1990; Whitehand, 1992).

In the past decade or so there has been a growth in urban morphological research in other parts of the world (Whitehand, 2012). In particular, Conzenian ideas have begun to attract increasing interest among researchers seeking to understand Chinese cities (Chen, 2010; Conzen, 2011; Duan and Qiu, 2009; Gu, 2001; He and Henwood, 2012; Tian *et al*., 2010; Xu, 2012; Xu *et al*., 2011). Morphological investigations, including some concerned with urban landscape management have been carried out in Pingyao (Tao and Jiang, 2012; Whitehand and Gu, 2007; Whitehand *et al*., 2011a), Beijing (Whitehand and Gu, 2006), Guangzhou (Li, 2013; Whitehand *et al*., 2011b; J. Zhang, 2012) and Suzhou (Chen, 2012). These studies have faced a variety of challenges, among which those relating to sources of information have

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been especially pronounced. This paper examines large-scale urban maps and plans and closely related morphological sources of information in China.

China has a long cartographical tradition, but true urban ground plans showing streets, plots and building block-plans were rare until recent history. Even in the early post-1949 period plots are absent in most urban plans. After the 1980s, true ground plans began to be prepared for a number of cities, and these are of particular importance for urban morphology. They provide the basis for detailed reconstruction of urban landscapes in conjunction with field surveys and other sources of information, including historical documentary records, photographs, paintings and web mapping services.

Maps and plans can be divided broadly into three historical categories: pre-1842, early modern (1843-1949), and post-1949. Influenced by the socio-cultural tradition and technology of the time, each period has characteristic features.

Urban maps before 1842

Research on the historical development and characteristics of traditional Chinese cartography has been the subject of a number of publications (Chang, 1974; Cheng, 1979; Hou, 1986; Hsu, 1978; Needham and Wang, 1959; Shi, 1996; Tan, 1982-1987; Wang, 1947, 1958; Yee, 1994). Urban maps prepared before 1842 may be grouped into two broad categories: descriptive (or artistic) and analytical. The large majority of urban maps in the descriptive tradition form part of local historical and geographical records (*difang zhi, chengfang zhi*) (Hsu, 1978, p. 59). These maps serve functional and ideological purposes, and are concerned with the spatial structure of the city and the general relationship between the city and its environs. Two features are characteristic: the depiction of building elevations, rather than building block-plans, at the sites of buildings, and the reliance on notes to complement mapped information, especially during the late-imperial period (Yang, 2008, p. 164; Yee, 1994, pp. 35-70). The use of building elevations is related to the use of painting techniques in the mapping process until well into the twentieth century (Yee, 1994, pp. 128-69). Although street systems, urban landmarks and waterways are major elements shown on the maps, accurately surveyed information is very limited.

In the absence of planimetric precision, supplementary information takes on especial importance: for example in *Pingyao xianzhi* (*Pingyao gazetteer*) (Yang, 1618), the length of the city wall in the diagrammatic map of Pingyao at the beginning of the Ming period (1368-1644) is specified as being '9 *li* 18 *bu*' (approximately 4,312 m). There was a substantial increase in annotations to maps during the late-imperial and early-modern periods, but the depiction of the built environment on maps made very little progress (Wang, 1984; Yee, 1994, pp. 96-127). In *Guangzhou chengfang zhi* (*Guangzhou gazetteer of city wards*) (Huang, 1994), which was first prepared during the Republican period, the entire book is devoted to *textual* description of urban districts, streets and sites and the changes they have undergone.

The maps that followed the analytical tradition (Hsu, 1978, p. 56) are particularly valuable in urban morphological research. The earliest surviving Chinese urban map might well be that of *Chengyi tu* prepared in the early Xihan period (206 BC-25 AD) (Yang, 2008, p. 165; Yee, 1994, pp. 40-1). Systematic methods of planimetric map-making – *zhitu liuti* (six principles of map-making) – were described by Pei Xiu (224-271 AD) in the Jin period (265-420 AD) (Hsu, 1978, pp. 56-7). Unfortunately, the maps and plans in the early analytical tradition that were prepared in the following 5 centuries or so have rarely survived (Hsu, 1978, pp. 56-7; Yang, 2008, p. 165; Yee, 1994). Research on large-scale historical urban maps and plans has been mainly concerned with those prepared during and after the Song period (960-1279).

Carved in stone, a number of urban maps created in the Song period are noteworthy. Maps with quantitative information include

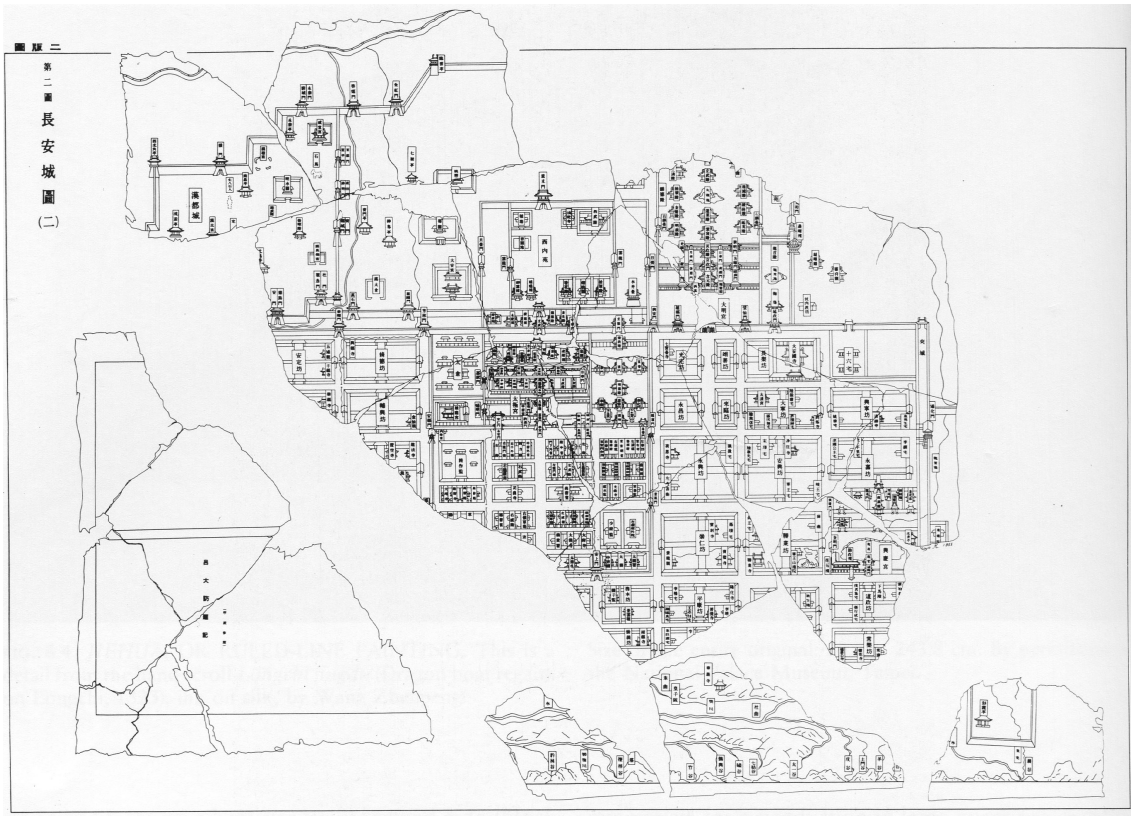

Figure 1. *Changan chengtu*, 1080, reproduced from Yee, 1994, p. 140.

those of *Changan chengtu* (1080) (Figure 1), *Pingjiang tu* (1229) and *Jingjiangfu chengchi tu* (1272). Research on the contents and interpretation of the map of *Pingjiang tu* has been a primary focus of numerous accounts concerning the traditional urban form of Suzhou (Du, 1989). To serve specific purposes of urban administration, many large-scale urban maps were prepared during the Qing period (1644-1911). They were generally drawn to scale: those of *Qianlong jingcheng quantu* (*c*.1750), *Gusu chengtu* (1745), *Sucheng quantu* (*c*.1896-1906) and *Cehui Jinling chengnei diming zuoxiang qingcha huangji tu* (*c*.1902-1905) are representative. These maps have been widely used in research on traditional urban planning and design, urban geography, urban history and traditional urban infrastructure and engineering.

European cartography was first introduced into China in the late-sixteenth century through the work of Jesuit missionaries (Chen, 1939; Yee, 1994, pp. 170-77). Its influence on Chinese cartographical practice became apparent in the mapping and surveying projects organized by the emperors from the early Qing period (Yee, 1994, p. 177). *Qianlong jingcheng quantu* (*The complete map of the capital in the Qianlong period*) of *c*.1750, which involved technological support from Italian artist Giuseppe Castiglione (Yang, 1984), depicts the walled area of Beijing. This map, which shows building elevations more or less correctly located, is at a scale of approximately 1:650 (Figure 2). Based on two versions reprinted in 1940, a reproduction of the map (*Jiamo Qianlong jingcheng quantu*), which was partially redrawn, was published by the Beijing Research Institute of Ancient Architecture and the Information Centre at Beijing Administration of Cultural Heritage in 1996. As a primary source on eighteenth century Beijing, this map has been used to support research on the dimensions and organization of street blocks and residential

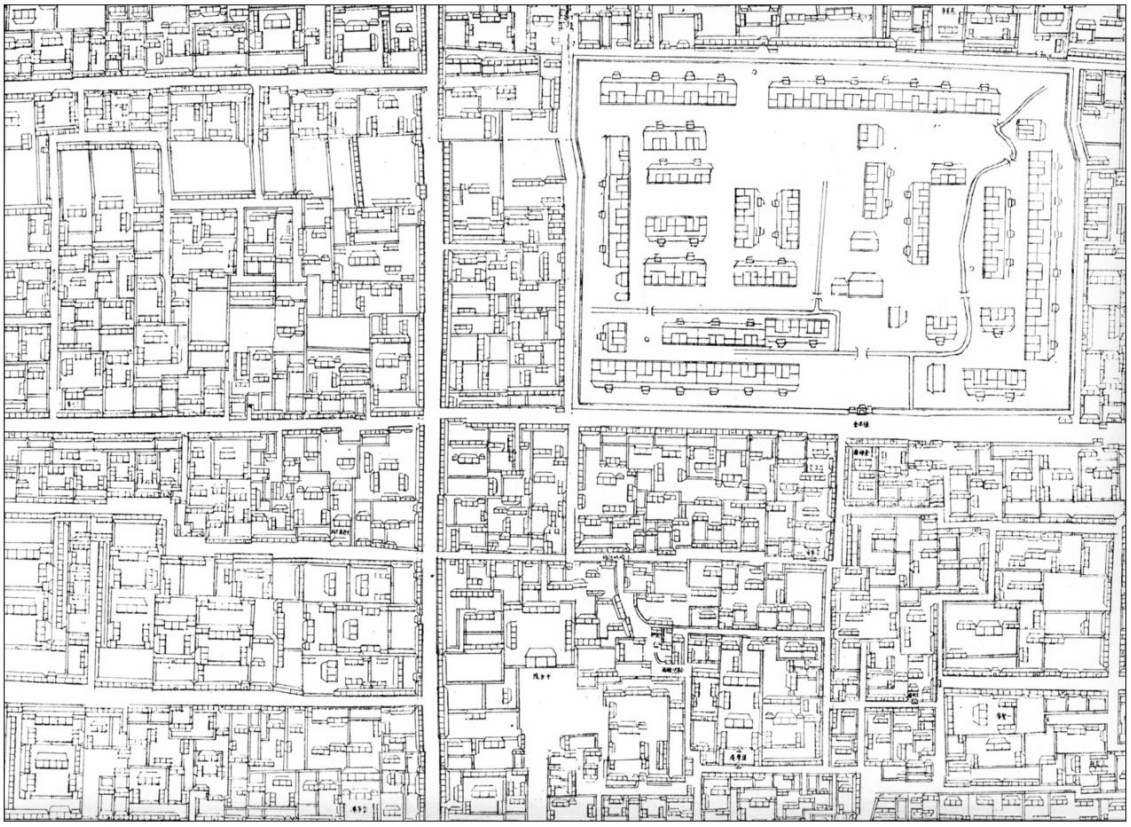

Figure 2. Part of *Qianlong jingcheng quantu*, showing an area in east-central Beijing (part of sheet 2, row 8). Sources: Beijing Research Institute of Ancient Architecture and the Information Centre at Beijing Administration of Cultural Heritage (1996).

neighbourhoods (Deng and Mao, 2003, 2004; Deng *et al*., 2002), site characteristics and the design and distribution of special buildings (Xiang, 2008), and historical change to courtyard space (Li and Wang, 2006).

Cadastral surveys and maps of agricultural lands can be traced back to the Shang dynasty (*c.*1600 BC-1000 BC) (Zhan *et al*., 2005, p. 9). For the purpose of taxation, the first nation-wide cadastral survey of agricultural land was undertaken between 1387 and 1393 (Zhan *et al*., 2005, p. 9). Figure 3 shows a cadastral map (or *yulin tu* 'fish-scale map') of the fields of Yuanhe County prepared in the Qing period. However, it seems likely that no equivalent plan survives for an entire town or city within China.

The difference between China and Europe in the degree of detail available in maps is striking. For instance, cadastral maps of Como, Italy showing individual plots and buildings for the entire urban area and its fringe, date from the 1720s (Conzen *et al*., 2012, p. 24). In stark contrast to the historical cartography in Europe, in China true ground plans were rarely prepared before 1842.

Traditional Chinese maps and plans generally show street systems and key land-marks, such as religious sites, large institut-ional structures and gardens. Such sources have been used to reveal urban growth, changes to streets and street blocks, and the historical development of particular urban features, such as special buildings and waterways (Wu, 2009; Xu, 2000; G. Zhang, 2012). In the investigation of the fringe belt of Pingyao (Whitehand *et al*., 2011a), historical maps of Pingyao in the Ming period (1368-1644), 1707, and 1883 (Kang, 1707, *Tukao*, p. 2; Wu and Wang, 1883, *Tukao*, p. 4; Yang, 1618) were used to identify key ancient fringe-belt features (Whitehand *et al*., 2011a, p. 47).

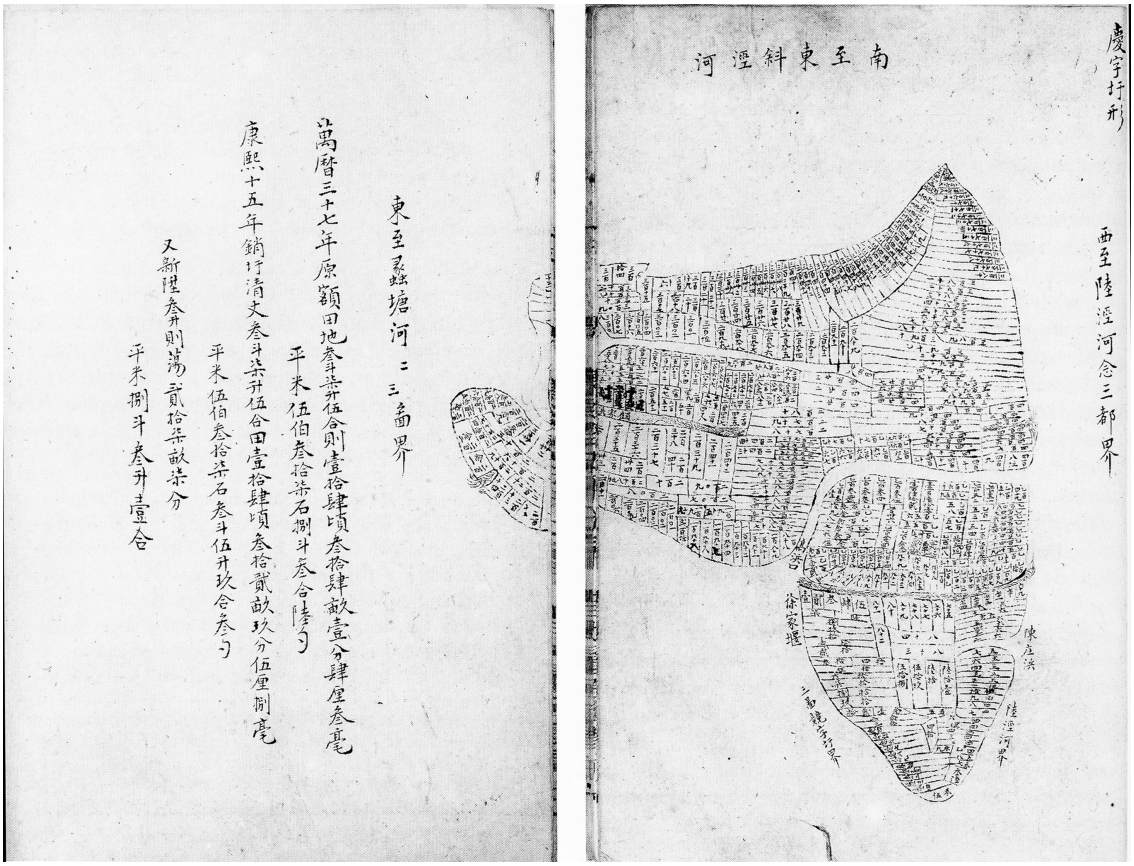

Figure 3. A sample of *yulin tu* (fish-scale map) of the Qing period (reproduced from Yee, 1994, p. 84).

Early-modern urban cartography

Plans with a high level of planimetric accuracy and, most importantly, showing plot boundaries, began to be produced in the early-modern period (1843-1949). Initially they were prepared largely for the concessionary areas in the treaty port cities by foreign surveyors and engineers. Following the Treaty of Humen in 1843, which legalized the creation of settlements for foreigners, concessionary areas began to take shape in the five earliest treaty port cities – Xiamen, Shanghai, Ningbo, Fuzhou and Guangzhou. Over the course of early-modern development, a number of cities in north-east China were almost fully controlled and managed by foreign countries: for instance, Qingdao was governed by Germany (1897-1914) and Japan (1914-45), Dalian was controlled by Russia (1898-1904) and Japan (1904-45), and Harbin was ruled by Russia (1896-1932) and Japan (1932-45) (Dong, 1982). Numerous detailed maps and plans were prepared for these cities during the period of foreign occupation.

Shanghai probably has the best cartographical records of the early-modern period. True ground plans of the concessionary areas of Western countries in Shanghai date from 1855 (Zhang *et al*., 2001) and title deeds exist from as early as 1847 (Cai, 2005). Applications to undertake constructional work (building applications) began to be required in 1901 (Compiling Committee for Shanghai Gazetteer of Concessionary Areas, 2001, pp. 565, 569). *Ground plan of the foreign settlement at Shanghai north of the Yang Kang Pang Canal, 1855* (reprinted in Zhang *et al.*, 2001, pp. 36-7), *Plan of the English settlement at Shanghai, surveyed in 1864-1866* (reprinted

Figure 4. ***Guangzhou minguo jingjie tu,*** **sheet 95, Hualinsi and the Changshou Xilu areas in Guangzhou (source: Guangzhou Municipal Archives of Urban Development, 2006).**

Figure 5. Yihelu and Shanyinlu areas in the cadastral map of Nanjing, 1936 (source: Ministry of the Interior and Academia Sinica, 2013).

in Zhang *et al.*, 2001, pp. 38-9) are among the most frequently used true ground plans in research on the European history of Shanghai (see, for example, Henriot, 2010; Politzer, 2005).

After 1912, land survey and map-making became important tasks of the newly established Republican government. Surveying and mapping agencies were established widely at national, provincial and city levels. The Republican government created a Jingjie Ju (Bureau of Surveying and Mapping) and issued *Preliminary guidelines for surveying and mapping* (*Jingjie fagui caoan*) in 1914 (Zhan *et al*., 2005, pp. 10-11). The first national guidance on cadastral surveying and mapping – *Regulation of cadastral surveys* (*Diji celian guize*) – was enacted in 1944. During the 1920s and 1930s, a number of large cities and towns, including Shanghai, Beijing, Guangzhou (Figure 4), Hangzhou, Chengdu, Suzhou and Nanjing (Figure 5), prepared large-scale plans covering most of their built-up areas (Yu and Liao, 2010, p. 371). The earliest cadastral survey of Guangzhou began in 1918 (Compiling Committee for Guangzhou Gazetteer, 1996). The resulting plans, entitled *Guangzhou minguo jingjie tu* (*Map of land divisions and boundaries in Guangzhou in the period of the Republic*) were prepared by Guangzhou Land Bureau (Guangzhou Tudiju) between 1926 and 1935. Comprising 383 sheets, they were bound in two volumes. The maps show the streets and plots of much of the built-up area of Guangzhou at the scale of 1:600, or 1:500 in

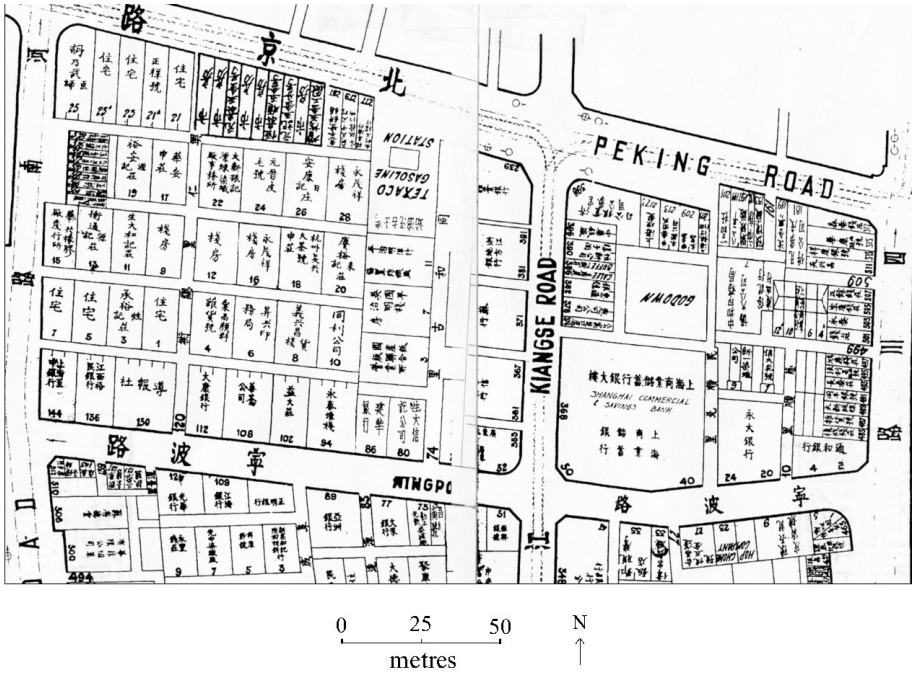

Figure 6. Extracts from Shanghai street directory 1939 (Lin, 1939, pp. 86-7).

the case of maps prepared in 1933 (Compiling Committee for Guangzhou Gazetteer, 1996).

Commercial publishers were playing an important role in producing maps for wide public use by the early-twentieth century (Yu and Liao, 2010, pp. 384-91). In addition to the many maps showing street patterns, a number contained plot information and are therefore of particular importance for urban morphology. Based on a survey from 1937 to 1939, two volumes of *Shanghaishi hanghao lu tulu* (*Shanghai street directory*) were published by the Free Trading Co., Shanghai in 1939 and 1940 (Figure 6). Plots, land use, names of businesses, and the floor plans of large buildings in the international and French concessionary areas were clearly presented (Lin, 1939, 1940). This *directory* was updated and published in two volumes in the late 1940s (Zhang *et al.*, 1947, 1949). It was renamed as *Laoshanghai baiye zhinan: daolu jigou changshang zhuzhai fenbu tu* (*Guide to old Shanghai's commerce: map of the distribution of streets, organizations, industries and houses*) and reprinted in 2004 (Cheng *et al.*, 2004). These Shanghai street directories published in the 1930s and 1940s and other large-scale urban maps and plans have been used as primary sources for the morphological investigation of changes in the Shanghai Bund area (Chang, 2005, 2009).

Numerous military maps of Chinese cities, showing for example defensive structures and transport systems, were used by foreign powers during the Second World War. Between 1937 and 1945, a collection of manuscript maps of 100 Chinese walled cities was prepared by the Japanese Army. They were originally compiled by Major Ishiwari Heizō of the Japanese Expeditionary Forces in China and published by the Imperial Japanese Army in 1940 under the title *Shina jōkaku no gaiyō* (*General outline of the walled cities of China*) (Ishiwari, 1940). In addition to the general configuration of the walled cities, photographs and detailed architectural drawings (elevations and sections) of the ramparts and moats of individual cities were included. The account by Sen-dong Chang (1970) of the shape, size and general internal structure of traditional Chinese cities was based largely on these maps.

Some of the plans produced in the 1920s and 1930s have served as base maps for post-war map-making and surveying. For instance, *Guangzhou minguo jingjie tu* was the reference map for mapping and surveying in Guangzhou until the 1980s (Compiling Committee for Guangzhou Gazetteer, 1996, pp. 187-8). Its use in morphological research has been demonstrated in recent studies of urban landscape units and urban conservation (Whitehand *et al.*, 2011b) and the evolutionary process of residential building types (Gu *et al*., 2008) in Guangzhou.

Recent publications of collections of historical and early-modern maps and plans of Chinese cities at reduced scale, including Beijing (Compiling Committee for a Collection of Beijing Historical Maps, 2005), Guangzhou (Zhou and Xiao, 2003), Shanghai (Zhang *et al*., 2001), Suzhou (Compiling Committee for Suzhou Gazetteer *et al.*, 2004), Wuhan (Compiling Committee for Historical Maps of Wuhan, 1998) and Macau (Zhou and Huo, 2001), are beginning to provide a more complete coverage of cartographical records. But gaining access to the high-resolution originals, which are normally kept in municipal archives of urban construction and city libraries, is still very difficult owing to a combination of data protection policy and poor archive administration (Henriot, 2009).

Maps and plans housed outside China, especially in Taiwan, the UK, the USA and Japan have been used in studies of Chinese urban form (see, for example, Chang, 1974). It is noteworthy that in association with the move of the Republican government to Taiwan in 1949, over 20 000 maps and plans, including large-scale urban maps created during the Republican period are now stored in the Ministry of the Interior of Taiwan. Most of the maps, including the cadastral plan of Nanjing in 1936, have been digitized and become available online (Ministry of the Interior and Academia Sinica, 2013).

Urban cartography since 1949

Most published maps of urban areas produced since the Communist Revolution are highly generalized, being produced largely for the use of tourists and visitors. They are of minimal value for serious research (Henriot, 2009).

Large-scale urban plans (*cehui tu*) at the scale of 1:500 began to be prepared in the early 1950s. For example, plans of Beijing at this scale were prepared in 1953 by Beijing Bureau of Real-Estate Management (Beijing Fangdichan Guanliju, later named Beijing Institute of Surveying and Mapping, Beijing Cehui Sheji Yanjiuyuan). Streets, building blocks, street numbers and heights of buildings (number of storeys) were shown. The survey was updated in 1970, 1989, 1999 and 2003 (Figure 7). More frequent updates took place after the early-twenty-first century. Unfortunately, plot boundaries, which are essential for detailed morphological analysis, are absent.

Another major deficiency of these plans is their failure to record many illegal structures, both on the ground and on rooftops: the large majority of small sheds, additional kitchens, bedrooms and storage structures built within courtyards, mainly after the 1960s, are not shown (Beijing Municipal City Planning Commission, 2002, p. 32). Figure 8 shows the distribution of informal buildings in the Zhishanmen area in Beijing. The building heights shown on the plan prepared by the local authority in the Tongfu Xilu area of Guangzhou can be compared with those observed on the ground (Figure 9).

Access to large-scale plans remains difficult. Such plans were traditionally used for military purposes and still tend to be regarded as items of state security. Before the establishment of the National Bureau of Surveying and Mapping (Guojia Cehui Ju) in 1956, the Bureau of Surveying and Mapping of the State Military Commission (Zhongyang Junwei Cehui Ju) was the primary agency responsible for nation-wide surveying and mapping (Yu and Liao, 2010, pp. 425-8). The results of their surveys are still largely confidential (State Bureau of Surveying and Mapping, 1989; National Administration of Surveying, Mapping and Geoinformation, 2006).

Over the past 15 years, true ground plans of

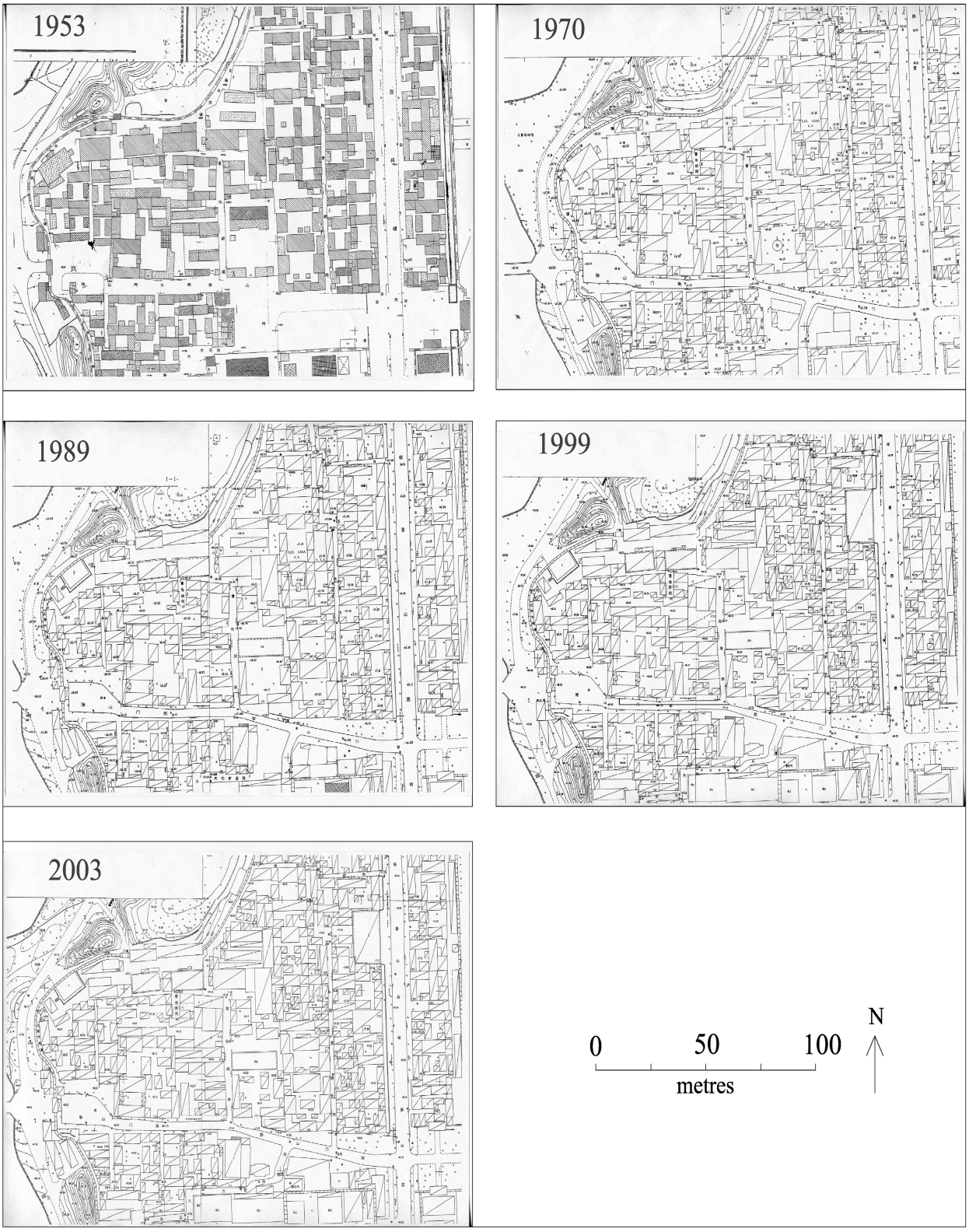

Figure 7. Plans of the Zhishanmen area, a historical area in Beijing, in 1953, 1970, 1989, 1999 and 2003, prepared by Beijing Bureau of Real-Estate Management and Beijing Institute of Surveying and Mapping.

Figure 8. Buildings not shown on the plan of the Zhishanmen area in Beijing, undertaken by Beijing Institute of Surveying and Mapping in 2005. Based on authors' field survey.

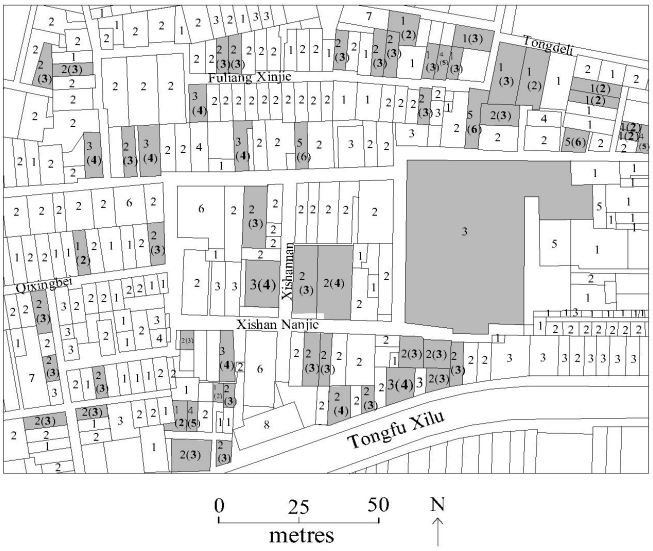

Figure 9. Discrepancies in the Tongfu Xilu area between number of storeys marked on the plan prepared by Guangzhou Research Institute of Urban Planning and Surveying, *c.* 2008 and the actual number of storeys in 2009-2010 (shown in brackets) based on authors' field survey.

a number of old cities and towns have begun to be produced to assist in the preparation of development control and conservation plans. For example, the city authorities of Beijing, Nanjing, Pingyao (Whitehand and Gu, 2007, p. 95) and Lijiang (Figure 10), have prepared true ground plans of their historical areas since the late 1990s. In the urban conservation plans for the 30 historical conservation areas within old Beijing, plot boundaries are clearly marked (Beijing Municipal City Planning Commission, 2002; Beijing Municipal City Planning Commission, 2004). The increasing availability of such true ground plans is greatly enhancing the prospects for undertaking detailed research on Chinese urban form.

Related sources for morphological reconstruction

Reconstruction of detailed changes to the urban landscapes of cities in China remains far more difficult than in the large majority of Western cities. Historical documentary records (for example, gazetteers, travelogues, novels, poems and memorials), photographs and paintings are particularly important for complementing information from historical maps. For example, based on a map showing little more than streets and built-up areas, some remains of historical structures on the ground, and more importantly, historical paintings, Mo (2003) has reconstructed a number of merchants' gardens in Guangzhou between the mid-eighteenth century and the mid-nineteenth century. By utilizing both maps and historical paintings, Politzer (2005) established in detail the process of change in the urban landscape of the Shanghai Bund between *c.*1849 and 1879.

Title deeds have from ancient times been a significant aspect of the functioning and management of a traditional urban society in China. *Fangdi qi* is the detailed record of land and property ownership and the history of its transaction. Though occasionally accompanied by a plan, the records generally rely on textual descriptions of the boundaries of plots (Ma, 2002). Between the 1950s and the 1970s, historical land and property ownership documents were largely destroyed, being regarded as legacies of feudalism. Some survivals exist in individual households, museums and agencies of government property management (Guotu he Fangwu Guanli). Since the establishment of a land market and the restoration of private property in the 1980s the contents of title deeds have become highly sensitive. They are virtually inaccessible to the general public.

Many high resolution aerial photographs were produced for military purposes during the early-modern period. For example, an aerial photograph of Nanjing in six sheets, compiled by aircraft of the United States Asiatic Fleet in 1929, is of particular value for the study of the form of Nanjing in the Republican period. This aerial photograph at a scale of 1:10 550 is held by the Map Division of the Library of Congress. High resolution aerial photographs of many Chinese cities are available after 1949 and provide an important complement to the true ground plans. For example, in conjunction with large-scale plans, aerial photographs of Guangzhou in 1955 (Guangzhou Municipal Archives of Urban Development, 2006) and 1978 (Guangzhou Municipal Archives of Urban Development, 2008) and Nanjing in 1949, 1976, 1989, 1990, 2003, 2004 (Hai and Liu, 2004), 2005 (Li, 2005) and 2009 (Li, 2010) are proving to be key sources for reconstructing urban development processes.

The growth of web mapping services (for example, Google Maps) and GPS navigation systems have influenced contemporary mapping products and management in China. Large-scale aerial urban photographs, urban three-dimensional 'maps', and street-view maps have become available in many cities. These can assist mapping of the extant built environment and the collection of information through field surveys. In particular, the street-view maps (Leador, 2013; Tencent-GS, 2013) which provide continuous high-resolution street images of over 100 Chinese cities are valuable in complementing field surveys.

In the absence of historical planning and building applications in most Chinese cities, personal communication provides a means of

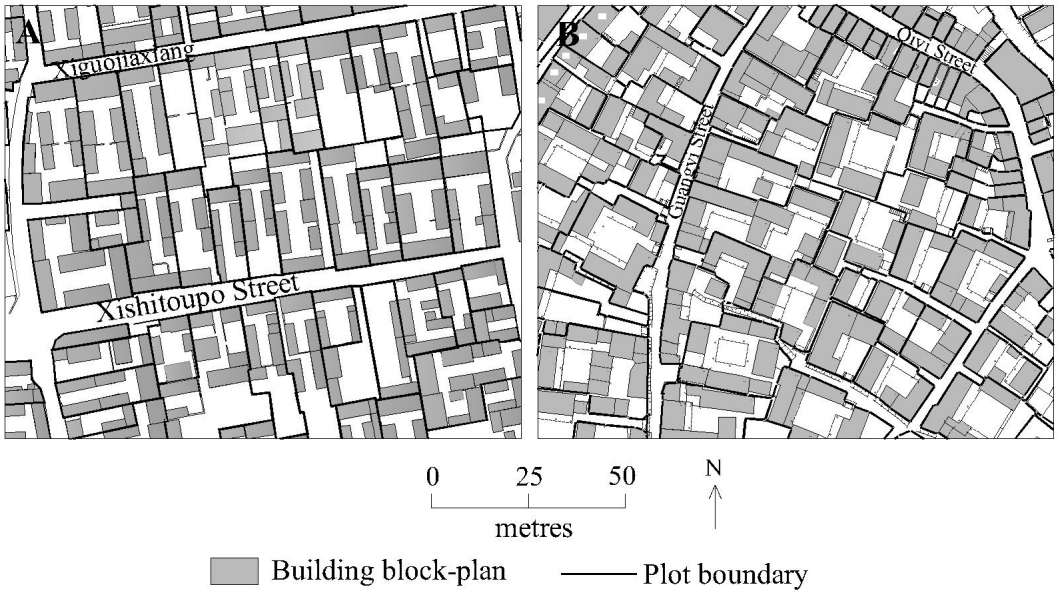

Figure 10. Parts of true ground plans surveyed in the early-twenty-first century. A. Pingyao (source: unpublished plan prepared by Shanxi Research Institute of Urban and Rural Planning and Design, 2002-04). B. Lijiang (source: unpublished plan available from the National Research Centre of Historic Cities, Tongji University).

obtaining specific morphological information. In the study of historical change to Hou's courtyards in Pingyao, especially during the post-1949 period, the oral evidence from the owners and occupants of the buildings at the time was indispensable (Whitehand and Gu, 2007, pp. 104-6).

Conclusion

Most Chinese maps produced before the beginning of the Republic are diagrammatic. Despite the availability of title deeds, true ground plans, showing plot boundaries, were rarely prepared before 1842. After the first Opium War of 1840-1842, true ground plans were produced in areas where the form of urban development was controlled by Western colonial powers. During the Republican period, many cities, such as Shanghai, Guangzhou, Nanjing and Suzhou, for the first time prepared cadastral plans of their urban areas. Since 1949, large-scale plans have been produced at several intervals in major cities. However, plot information has been largely absent, even during much of the period of expansion of large-scale urban surveys since the mid-1950s. To assist more effective urban planning and management of historical urban areas, plots were included in the plans of some towns and cities after the 1980s, and this has been a significant asset for geographical urban morphological research.

The scarcity of accurately surveyed large-scale urban plans until recently might explain the descriptive nature of the bulk of research on traditional Chinese urban form. The nature of the sources for urban morphological research accords with the prevalence of cultural, cosmological and geomantic perspectives in research on traditional urban form in China. Such research has been heavily reliant on written historical records, and contrasts with the analytical approach to urban morphology that predominates in the West (Whitehand and Gu, 2006).

Despite the absence of building-block plans, the cadastral surveys prepared by many Chinese cities during the Republican period are fundamental to morphological research. The persistence of street systems over long periods means that cadastral maps of the early-modern period can assist in the interpretation

of maps prepared in the pre-1912 and post-1949 periods.

Large-scale urban ground plans produced since 1949 have not been widely used for research on Chinese cities owing to government control over their availability. Nevertheless, they are now being increasingly used in collaborative research projects between government and research organizations and between local and international institutions (Alexander *et al.*, 2004; Rubeo *et al.*, 2005).

In the past 15 years, as new sources of morphological information have become available and as research communication between China and much of the rest of the world has burgeoned, there has been a growth in research on Chinese urban form. Despite the limited cartographical record in China compared with that in the West, and the limitations on access to this record, research on urban form in China is making major advances. This paper has sought to summarize the cartographical sources available, and the ways in which they can be used, in the hope and expectation that this will aid further building on these advances.

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