

OPERATIONALISING PUBLIC SPACE ACTIVITY AND STRUCTURING REDEVELOPMENT THROUGH PUBLIC FACILITIES PLANNING IN A CONFIGURATIONAL URBAN STRUCTURE

AUTHOR: **Stephen READ**
Delft University of Technology, Netherlands
e-mail: s.a.read@tudelft.nl

Jingya WANG
Delft University of Technology, Netherlands
e-mail: wangjingya1985@yahoo.com.cn

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Abstract

Forms in planning often do not match the forms of cities. This is important because the experience and functionings of cities are given by certain forms and not by others. In particular we are concerned here with the fact planning and design thinking often assumes a nested hierarchy of communities and spaces while the real forms of cities suggest a different diagram of how hierarchies are formed and sustained as active spaces. We ask the question what kind of forms human action and urban activity entail, and begin to answer this with a view taken from hermeneutical phenomenology that finds these mediated by technologies in such a way that what acts is the human-technology network rather than the human in a polar relation with a resistant 'environment'. 'Environments' are, it is suggested, 'technological spaces' constructed in networks and to normative forms and scales like 'neighbourhood' or 'city'. We review previous work on the role of the supergrid in constructing these forms in a process of historical development in Amsterdam. In Amsterdam infrastructure has been systematised to create networks of places in neighbourhoods, in cities (neighbourhoods and other city-scale things), and in metropolitan regions (cities and other metropolitan scaled things). This is a level of 'planning' that concerns normative assumptions and exists outside of the explicit concerns of planning while affecting all planning decisions at the level of sense. We conclude there is a different 'diagram' of urban space, consisting of three grids superimposed on each other, each of which produces a different normative element: neighbourhood, city and metropolitan region; each of which exists in part-whole relations with the others. We use this model to investigate the form of the city of Jinan in China, asking about its relevance and how we can use it to promote planning for an active public space in new towns in Jinan. Chinese planning assumes a particular form of the city and we contrast this with the actuality of activity patterns in Jinan and their historical formation. We ask how planning form needs to be translated here into urban form in order to promote public space activity in the new towns proposed and make some guidelines and suggestions for planners on how we can begin to do this. The question of why a model derived in European conditions may help us in China may be answered by the fact that both were

subject of urbanisation under conditions of industrialisation and both are undergoing transformation under conditions of metropolitanisation. There is an open question still concerning Chinese 'neighbourhoods' and their definition.

INTRODUCTION

There is a very basic contradiction in many of our physical or spatial planning norms and concepts and the urban forms they embed: this is that these contain no notion of how their forms are translated into the practices of life in the environments they shape.

We separate different aspects of urban functioning or different urban problems into different disciplinary realms. The discipline of urban or spatial planning for example, if we consider this in its constructive rather than its ameliorative role, looks at the distribution of people and facilities over an urban or geographical surface. Then the notion of behaviour looks at the way people move and act over this surface. However both of these involve a form of the environment and we have no form that will bridge the gap between planning and behaviour. In fact, the problem is resolved in most planning and behavioural research by ignoring it: assuming that the environment on the one hand presents a surface to be filled with communities and facilities, and on the other presents a surface of variable friction or resistance to movement. This assumption entirely misses any account of how we may locate ourselves, or even be cognisant of our location or that of other things in a surround that offers no overview. It involves an illusion of the 'transparency' of the environment to the person in the environment and moving between facilities.

In fact what we are offering here as a misconception has a long record as a discipline of 'spatial science' in which our surround or environment has been understood through the idea of its opposition to and resistance to us as sentient and mobile creatures. A man-environment or organism-environment duality is set up in which activity and intelligence are set on the side of 'man' or 'organism', while a passive friction or resistance to movement characterises the 'environment'. 'Wayfinding' is the intelligence the active pole uses to overcome the resistance, and 'accessibility' is the measure of the way resistance is overcome in this setup. Distance is in spatial science the most commonly understood factor of environmental resistance. Space syntax has added another: the resistance of the complexity of the movement fabric.

But the transparency or knowability of our environment is something we cannot simply assume. Environment is a surround, it is also structured. This is not simply an issue of the active intelligence of the agent against the passive resistance of the environment, because our relation with our environment is also a material and substantial relation. Subject-environmental relations do not have to do with a cognitive faculty; they have to do with a subject position and viewpoint on a material world in which we are embedded and in which we may see different things or act and know differently from different positions. There is a fundamentally different way of understanding this problematic. In hermeneutical phenomenology and a hermeneutical philosophy of science (Read 2012a), what acts is not the person but rather the whole person-environment dipole: what knows is not the person alone but the person in a situated relation with an environment or surround. It is only in the relation that the elements of the surround become meaningful or sensible or the person able or intelligent. 'Environment' becomes medium for knowledge or action and in a

take on the human condition which has humans thoroughly linked to their surrounds, the surrounds themselves become a condition for action or knowledge. The environment or surround is not resistance to action and knowing but the means to it. This makes of the environment something other than a smooth extrusion of distance along two (or three) coordinate axes. It makes it formed to action and knowledge and a construction maintained as means and medium of human enablement.

We have to consider as well that our material world is substantially, even wholly, man-made. Being made by man, the material around us is 'equipment'. It is also 'conceptual', but much more than free-floating abstractions translated into material. We live in a world structured to know and do things, in which much if not most of our thinking is already done and most of the things we know and do make sense because they join up with the significant objects and places and conjunctions that are already parts of our lives and societies. There is a profound level of organisational order embedded in the world that passes under the radar of reductive and 'theoretical' scientific thinking. This is the level of order our other source, space syntax, reveals in its analyses of urban layout (Read, 2012b); it is the level of order we can associate with human and urban activity. It is not so much pre-conceptual as about the historical and material realm in which geographical concepts and percepts arise in the first place. This paper starts therefore by questioning the foundations of notions of 'space', 'environment' and 'accessibility', proposing that the urban fabric is part of human action and structured for enablement, in order to look at how we can use another space to promote human and public space activity in a practical way.

We suggest that the forms embodied in physical and spatial planning practices, documents and regulations do not understand this and need to be translated into this other form if we are to understand human and urban activity and design for it. This paper is an investigation into some of this sense built into surrounds and how we may begin to use the understanding of this to translate the form embedded in planning documents into this enabling form. We will give a short account of this other form and order and of the relation of this with space syntax before using this as an hypothesis to develop the beginnings of a planning strategy for Jinan in China that brings activity and public space quality to new town centres.

PUBLIC FACILITIES ORIENTED PLANNING IN JINAN, CHINA

Jinan is a second-tier Chinese city of 6 million people, the capital of Shandong Province. It is located in the east of China at an infrastructural crossing between Beijing and Shanghai on the one hand and ports on the coast of the East China Sea and the Chinese hinterland on the other. The city is undergoing a comprehensive replanning of its infrastructure combined with the planning of two major new centres along with neighbourhoods, facilities and functions. These additions to and restructurings of the city have been conceived on land-use and accessibility planning models. The question is how to organise the system of facilities as a 'public space activity generator' that will deliver the sorts of public space activity we know from historic centres.

The rapid rate of urbanisation in China has led to a national planning policy that supports the building of new towns. Many of these have been constructed around the major centres: eleven new towns have been constructed around Beijing; nine around Shanghai; ten around Nanjing, and; two have been started in Jinan. Many of these new towns are 'public facilities oriented': conceived firstly as administrative centres, university new towns or sports centres for large events for example, Chinese new town planning tries to avoid monofunctional centres and plans along with these dominant functions a calculated mix of other public facilities and housing at the same time. However, despite these efforts, most of these new towns

confront the same problems of dependency on historic centres, lack of life and vitality and weak growth and development potential compared to the historic core.

In China new towns construction is part of the regional development strategy. These new towns are designed play a positive role in development but risk becoming problem areas due to a lack of vitality and spontaneous development potential. This lack is usually put down to the rapid construction process and a lack of consideration of basic socioeconomic principles of urban development (Bernhardt, 2005). In the planning regime, and using a land-use and accessibility spatial model and strategy however, concentrations of public facilities are assumed to be sufficient to create centralities for new town development. The kind of space organisation represented in the diagram below becomes the primary form used for the functional organisation and layout of the urban centre and new towns under investigation here.

Chinese planning assumes a political structure of societies. A normative and administrative structure is reflected in population and household registration policies, public administration and public facilities planning, and in public facilities oriented planning this structure is built directly into the plans of Chinese cities. The public facilities plan is spatialised as a nested hierarchy of areas and associated centres, each conceived as a cluster of facilities. Each area is defined by a 'community' of 'political subjects' registered there, and public, administrative, educational and commercial facilities scaled to the 'community' involved. There are four scales of 'community' and four scales of centres: 'neighbourhood' (shequ) centres, school district (pianqu) centres, district (diqu) centres and city and regional centres. The typical city plan includes an allocation of facilities over the whole city along the lines of this structure.

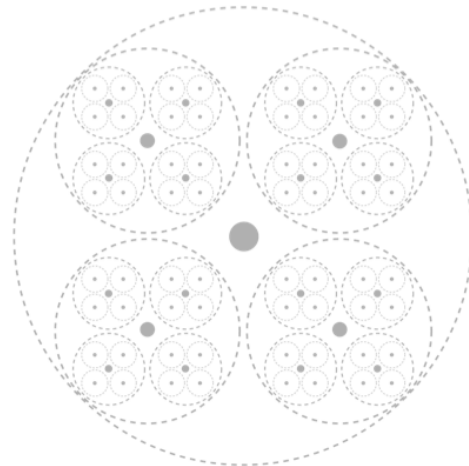


Figure 1. Hierarchical form of the relation between shequ, pianqu, diqu, city and regional structure.

However most of these plans have not generated the sorts of public space activity the projects envisaged. Most of the new centres either decrease or survive simply as satellites of the main city. The question of how to organise new towns as generators of their own development potentials has been identified as an urgent issue (Liu, 2005) in China. In addition the problem is seen as not simply one of economic development but related to public space quality and the development of socially and urbanistically attractive and vital urban environments. The concern we have is that the space itself, as it is assumed in the planning model, has been shown in the past to deliver public spaces without colour and life. The question becomes one of how to organise the system of facilities as a 'public space activity generator' in order to improve public space

activity and actively integrate the replanned city into regional and local development. This paper investigates these concerns in relation to alternative spatial models arising from previous investigations and studies of Amsterdam.

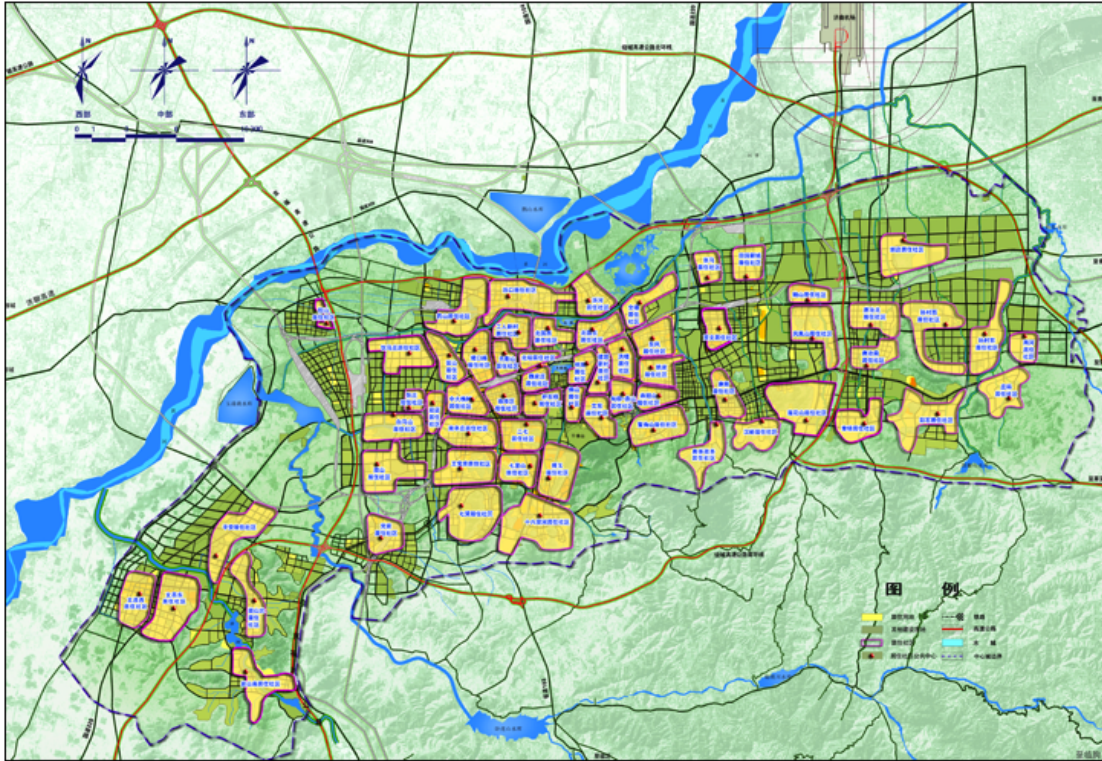


Figure 2. Local government plan of Jinan showing the division of the city into shequ (neighbourhoods). These are much larger than western neighbourhoods and involve populations of 50 000 to 70 000 people each. The two New Towns are emerging as clusters to the east and south-west of the historic core.

The current local government comprehensive plan for the city is spatialised as a nested hierarchy of areas and associated centres, each conceived as a cluster of specific facilities at the four scales of community: shequ centres, pianqu centres, diqu centres and city and regional centres. These were mapped and compared to the actual distribution of those facilities. The object was to define the actual order of the distribution of facilities, compare this to another spatial model we will describe next, and develop a strategy to in order to reorganize the public facilities system as a generator of public space activity. We are looking for a translation procedure for the existing public facilities plan and in relation to a revised infrastructure plan in order to define the rationale for the generation of public space quality and activity and the better integration of the new town into regional and local development.

THE PART-WHOLE STRUCTURE OF THE EUROPEAN INDUSTRIAL CITY

One of us has shown how the European industrial city is materially and technologically structured into a part-whole, city-neighbourhood structure (Read 2012). This is no abstraction simply materialised. There was no universal idea of neighbourhood that pre-existed its materialisation. It was out of the effects of the organisation of movement grids that a notion of neighbourhood could emerge in the first place. City and neighbourhood and their relations were a structure constructed, embodied and then normalised in the European industrial city. The normativity was a product of the materialisation and the fact is we live and move in these concepts as much as think them (Osborne and Rose 2004). These materialisations constitute, we propose, a surfeit of order that organises planning at the level of sense. It passes under the radar of our spatial theorising and derives from the historical and material realm in which geographical concepts and percepts arise.

The basis of this structure is the 'technological space' and geometry of the supergrid. From a space syntax perspective, the supergrid is a connected up web of long lines in the axial map that acts to 'integrate' by 'shortening' distances across the expanded fabric of the new city. This is a grid-form which is characteristic of European industrial cities and that establishes the reality of our experience of 'city' and 'neighbourhood' as well as their relations with each other. These relations are historical rather than generic, are established at a specific moment in time and are active in the way we understand and use the space of the city. The supergrid is an historical construction that arose in the conditions of the European industrial city.

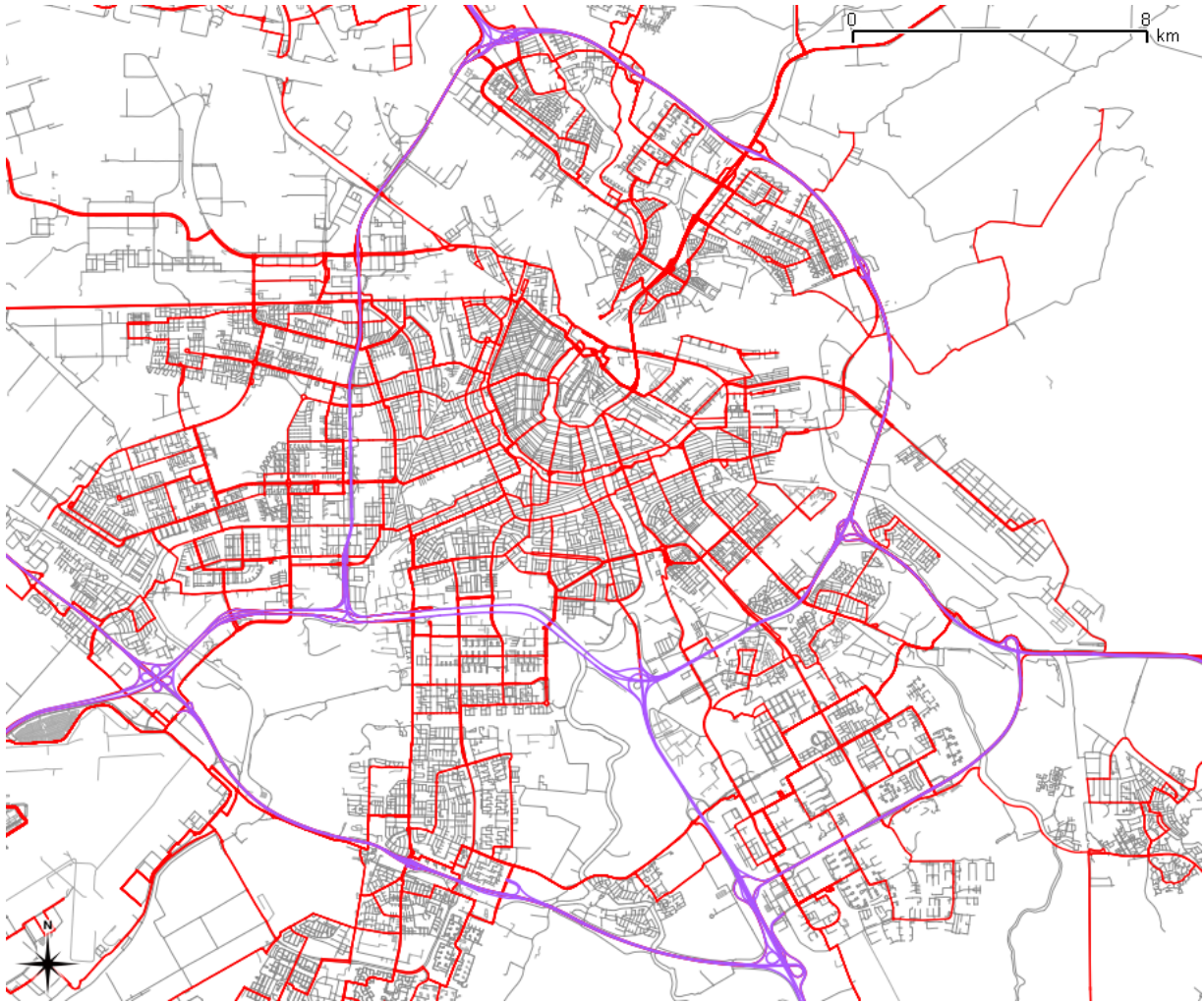


Figure 3. Amsterdam supergrid; a materialised city-neighborhood relation.

The supergrid establishes ‘city’ and ‘neighbourhood’ and the things they contain in relations with each other. They become simultaneously material and meaningful realities through which the forms of city and neighbourhood become sensible. The supergrid opens city and neighbourhood up as fields of knowledge and action. It does not determine the content of these but opens a space to be appropriated with content.¹ Rather than treating space as a factor framing the working of the urban grid – in particular rather than treating it as a factor of Euclidian geometry and metric distance – we should regard this structure itself as ‘space’. There are engineered infrastructures that are themselves the sources of orders of knowledge and action and may themselves be regarded as space. It is these spaces we will refer to as ‘infrastructures’, which we have defined as “technical networks arranging and especially distributing things and practices that have and draw their significance in relation to one another” (Read 2009). The structure we refer to as the supergrid is perhaps the most important of these, historically formed in the industrial era and central to the structure space syntax reveals.

¹ Lefebvre refers to this as “pure form: a place of encounter, assembly, simultaneity. This form has no specific content, but is a centre of attraction and life. It is an abstraction, but unlike a metaphysical entity, the urban is a concrete abstraction, associated with practice” (Lefebvre 2003: 118-9).

One of us has traced the emergence of the supergrid in Amsterdam to a moment in history when a new social form emerged, related to an expanding population of industrial workers and a new modern social contract between citizen and government (van der Woud 2001: 194). The supergrid was planned and constructed as an urban-social 'infrastructure' for this form. The supergrid was part of the way cities were reinvented in the industrial era, so that 'neighbourhood' and 'city' in this form are also historical constructions rather than abstract or generic ideas. More specifically it was the infrastructure for the part-whole, neighbourhood-city relation of the industrial city and the division of labour this supported of the bourgeois city with its centres of commerce and industry and its social neighbourhoods. It was the route of the new public transportation network of the electric tram. This network was just one of a variety of new technical systems that were installed at the time as infrastructures of a new modern industrial city (Hård & Misa 2010). We can treat the supergrid therefore as a planning strategy for fixing a new urban organisation appropriate to this new urban society.

The infrastructural, or socio-technical (Edwards 2003) components of the new modern industrial city were not simply means; they were the instruments and equipment through which the workings of those infrastructures were enabled and their effects became readable to those immersed in them. The supergrid itself was a socio-technical system and the technical dimension and support for a particular conjunction of material cultures (Read 2009). The technology had a strong political dimension, related to a reconstruction of society, transferred and adapted from examples like that of Haussmann in his social and technical reconstruction of Paris.

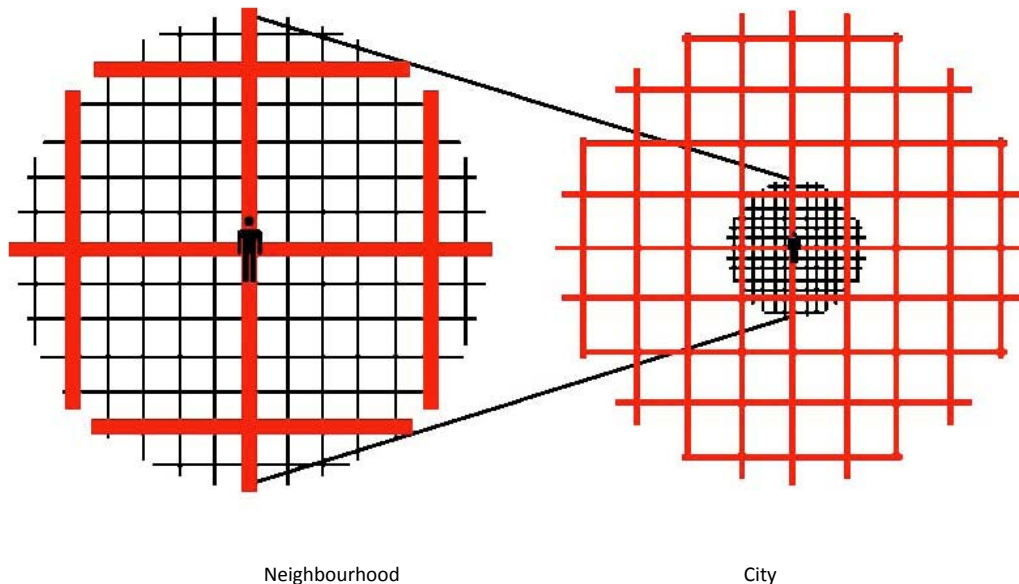


Figure 4. Hierarchical neighbourhood-city structure in Amsterdam.

We can see that as a diagram the combination of the supergrid and the fine-grained street and block grid is the inverse of the sort of diagram depicted in figure 1. In place of the bounding lines which mark the limits of neighbourhood or city we are presented with two networks: the courser of which links places interior to cities – like the centres of neighbourhoods themselves congruent (as main or shopping streets) with the network, and other city-scaled places; the finer of which links places interior to neighbourhoods. The planning diagram, in abstracting the idea, retains the part-whole structure while losing the integral

connective rationale that is also the mechanics of its operation. As a 'concrete abstraction' the supergrid is a diagram of its own technical operationalisation. In its fidelity to the processes of its making and use it also guarantees sense to the beings locked up in the diagram itself, it is a condition of action and active knowing. The concept conforms to a historically materialised spatiality in which the 'seeing' prioritised is that of the immersed beings rather than of the disengaged spatial theorists or planners. In fact 'theory' is already in the supergrid – as a 'technological rationale' embedded in this 'technological space'.

Amsterdam was constructed to integrate the material elements of a new industrial society around the supergrid. The supergrid operated at the scale of the city and to the speed of the tram and the elements of the new city were disposed around it. The 'handiness' of these city-scaled objects and places (including the neighbourhoods) related to the ease of connecting the real places of real lives integrated in this new society. The supergrid was the new city-scaled space that integrated the lives of industrial workers and bourgeoisie.² Infrastructures are more than means to movement; they are also more than handy resources held in convenient relations with other things, because the things are not predefined but become defined and make sense in relation to whole arrangements of subjects, objects and practices that work together to construct larger entities – like the neighbourhood or the modern city. Infrastructures are set up to connect selected features of the world in new configurations which have a certain autonomy with respect to what existed before.

The systematicity of these spaces is not a product of spatial laws but of these historically and technically systematised social logics, set up to support urban and material cultures, and defining relations in relatively autonomous spheres of urban life. Both city and neighbourhood are defined in situ as configurations of city or neighbourhood objects and places. By neighbourhood objects and places we mean those objects and places which are incorporated through use and activity in the social, economic and political life of the neighbourhood. By city objects and places we mean those objects and places which are incorporated in the social, economic and political life of the city. And then, material cultures are spatially integrated around the objects and places that perform significant roles in that society (Dobres and Hoffman 1994). They are configurations of practice, agency and world view and this is what defines them as spaces.

The supergrid and its correlated objects and places fixed at the same time an 'interface' between neighbourhood and city which is the street as a vital and active production of the infrastructure. This is an object which comes to be in the relations maintained in the infrastructure – not in a theoretical world but in a technological world with the rationales that technology embed. We can see how the supergrid space may carry facilities oriented to both the neighbourhood and the city. It is in the meeting of two different spaces of city and neighbourhood that 'heterotopic' centralities emerge as linear patterns of shopping streets connecting and centring neighbourhoods. These are the spaces of passing strangers as well as the places centring neighbourhoods; of catching the tram and everyday shopping and conviviality. Though the specific contents of 'neighbourhood' and 'city' have changed in the hundred or so years since their building, these streets exist in a nexus of relations that sustains a generalised urbanity and contributes sociability, colour and definition to the specific content of these urban places.

Supergrid and tram system have a topological dimension; they establish places in the network, their relations with one another and our knowledge of these places even from a distance. The tram and its stops became instruments for reading the place system and its working; they generate an order of things making sense in relation to one another, a mediated order in which knowledge and action are possible. Action takes

² See Harvey (2006) on the equivalent process in Paris.

place not in a theoretical world but in a technological world that enables particular ways of seeing given in the technologies.

More recently a new space has been systematised at a metropolitan intercity scale. The transition from the industrial city to the post-industrial metropolitan city we know today is nearing completion. The train network, reorganised as a daily commuting system, and the freeway network with its daily commuters are involved in this. As the industrial city was organised and oriented on the supergrid, this new city is organised around and oriented to the freeway system. A metropolitan space has 'seceded' from an older pattern of urban spaces (Read & Gil 2011).

A regional scale and space has been constructed, establishing a perceptual-conceptual space quite distinct from that of the modern city. This space is however articulated with historical infrastructures, as the supergrid was articulated with the neighbourhood grid, creating new potentialities and centralities and reinforcing and transforming existing ones at the hinge points. The old city and its neighbourhoods become reoriented towards a new city centred on the freeway – a city turned inside out in a way so that the prime real estate is not at the core of the industrial city any more but on the edges – on the A10 ring road for example and in a 'gravitational' relationship with the airport.

The new normative urban entities are the urban region integrated by the freeway and the enclaves attached to it. The old industrial city is however articulated with the new. The most vivid, characteristic and contemporary places are some of the reoriented industrial neighbourhoods and centres. Amsterdam's tourist heart remains tied to the airport by 7 trains per hour while Holland's business zone stretches itself between the airport and the major cities, settling on the freeway-connected edges of these cities, including especially the west and southern wings of the A10 ring road. The industrial city has had to be retrofitted, as the preindustrial had before, to accommodate the reorientation. We see how the growth of a new infrastructure is necessarily constrained by and oriented to what was built before, while it at the same time 'secedes' from it and develops another 'level' of power in relation to it.

THINKING PLANNING HIERARCHIES DIFFERENTLY IN JINAN

Infrastructure is generally understood as the equipment for accessibility, facilitating access to facilities and functions. Land-use defines the location of the facilities and functions to which accessibility needs are provided. Space syntax has demonstrated how urban infrastructure is more than accessibility however. We have learned how cities and their infrastructures may structure use and space in such a way as to deliver a vital public space. It has opened the possibility of seeing urban fabrics as structuring human activities and as providing focused local conditions conducive to lively public spaces and street-level activity. In this case rather than cities being ordered into the bounded communities and areas seen in figure 1, what we could rather imagine is arrangements of communities, facilities and activities ordered in 'infrastructures' or technical networks arranging and distributing objects, subjects and practices that acquire their significance in relation to one another (Read 2009). These infrastructures define and support a set of normative scales – neighbourhood and city – in the city. We see however that this organisational structure and space is quite different to the planning structure and space of neighbourhood and city we saw before. How should we think of the 'translation' of a 'planning space' into an 'urban space'? – one which will plausibly be a space which will generate a vivid public space and street-level activity.

The question can be approached by first asking: what, if any, sort of equivalent 'infrastructural' hierarchy exists in vital, historically evolved urban centres in China? and then; can we use our understanding of this structure to redesign the plans for new centres in Jinan so they organise social and political hierarchy while being vital active centres?



Shequ



Pianqu

Diqu

City

Figure 5. Planning division of the city into shequ (neighbourhoods), pianqu (school district centres), diqu (district centres) and city and regional centres.

The historic city has grown and has been structured to a different order to the planning order and exhibits another hierarchy. We will follow the development of Jinan from 1911 to today to show the development of a supergrid in a long industrialisation and urbanisation which began in the Republican era and went through phases of acceleration and deceleration till today.

The city has gone through profound changes politically and urbanistically in the course of the 20th century. Jinan participated with many other Chinese cities in a period of modernisation, colonisation and industrialisation in the late Qing and early Republican periods at the end of the 19th century and beginning of the 20th century. The city grew out of its walls and in 1911 doubled in size with the addition of the 'European' city to the west of the traditional centre. The railway was established with the main station at the new part of the city. The city grew with industrial expansion and the in-migration of people of from rural areas to man the factories. Housing was built by industrial concerns in workers' districts. The streets connecting the old and new cities became the main public and commercial spaces with the highest levels of activity. After 1948 and the establishment of the People's Republic urbanisation accelerated with state-sponsored industrialisation. The city expanded with more new factories and workers' housing built outside the centres.



1911.



1932.





1948.



1956



Figure 6. The growth of the supergrid: 1911-1956.

What we see is the gradual emergence of a grid structurally resembling the supergrid in Amsterdam. The supergrid grows piecemeal as a main movement grid as it at the same time structures the city into a relational matrix of city-scaled functions and facilities. A fine-grained neighbourhood grid structures neighbourhoods and is at the same time oriented to this larger structure. Over time, new areas of the city were connected into the supergrid and public transportation system. The older centres become parts of newer wholes, but still central parts. A 'path-dependency' of this development ensures the enduring centrality of the older centres as the geometries of the supergrid tend to connect outer parts directly with the centres in a radial pattern. What comes later always and must refer to and orient to what exists and in this way 'reinforce' its presence.

The role of the supergrid seems to be similar to what we saw in Amsterdam. From a space syntax perspective, it acts to 'shorten' distances and integrate the new expanded city between the functions and facilities of the new city. This 'shortening' and integration is linked with public transportation and its role in connecting workers, factories and other facilities of an industrial society. We have argued that supergrids are 'infrastructures' of an industrial urbanisation, arranging and distributing objects and practices that work together to construct in its everyday praxis the modern industrial city and neighbourhood. More recently it has supported private cars but has continued to hold together the spaces of the neighbourhood and the city.

There is clearly however also a scale to the effectiveness of this kind of city and a limit which will show up in 'diminishing returns' at the edges of the city as it grows. By 2006 what shows up in the overall pattern of the distribution of facilities is more or less the same pattern that was apparent in 1956 with in addition a few new centres which have developed as strips on roads leading into and out of the city. Industrialisation was in any event disrupted at the same time by the Cultural Revolution. A city (itself a node in larger regional and national networks) was formed in a public transportation system centred on the historic core, and spreading radially from there. This concentrated and organised a complex organisation of social communities and facilities. We will look next at how the hierarchies of society and public facilities are expressed in this structure.

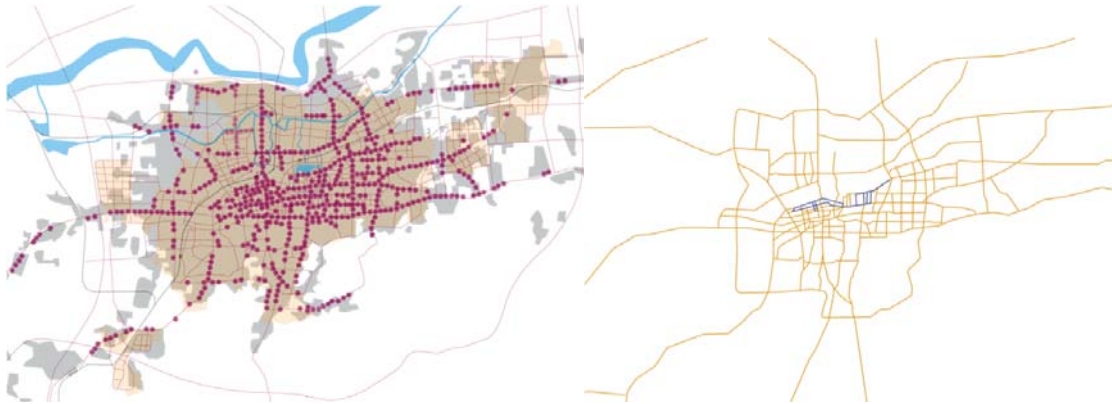


Figure 7. The supergrid: 2006.

Migration and industrialisation driven growth accelerated immediately after the birth of the Peoples Republic in 1948. It slowed during the Cultural Revolution, and accelerated again in the Reform period after 1978. The recent period has been marked by intensive infrastructure development which continues today. What we see is a gradual and ongoing systematisation of a supergrid as a spatial datum for the city scale. However this is all reaching an unmanageable size and the present plan includes the building of a ring road, upgrading of the urban road system, the reallocation of social facilities and the planning of two major 'new town' centres. The centre for the 11th National Games in 2006 is currently being transformed into the east new town centre in the government planning. A west new town centre will follow.

DEFINING A NEW PLANNING STRUCTURE

Public facilities were mapped using online directories and sorted by the scales of shequ, pianqu, diqu and city and regional. If we look at the distribution of shequ and pianqu facilities however against the administrative shequ areas it is clear there is little direct relation between the two. In the logic of the planning system shequ and pianqu facilities are placed in notional centres interior to bounded shequ and pianqu areas. In reality shequ and pianqu facilities tend to be located on supergrid lines and are more concentrated closer to the historical core. The actual distribution of facilities in the historically evolved fabric is not in any way confined to a bounded spatial area but is located on the supergrid. The distribution of public facilities is however, according to our hypothesis, structured by the fact that shequ and pianqu (broadly neighbourhood scaled) facilities exist in a fine-grained grid, centred on the supergrid, while larger-scaled diqu and city (broadly city and regional scaled) facilities exist in a supergrid.

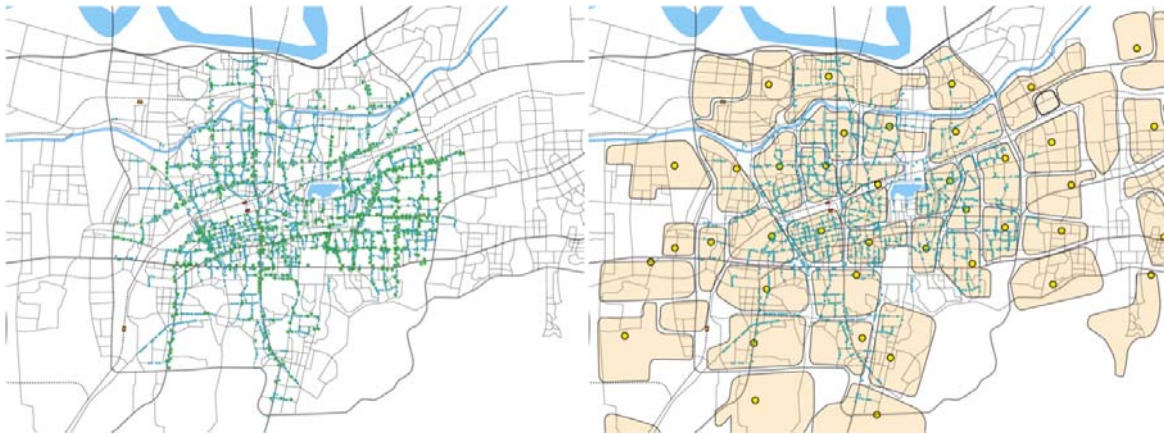


Figure 8. Actual distributions of shequ and pianqu scaled facilities (green) seen against the local government plan.



Figure 9. Distributions of different scaled facilities: green – shequ and pianqu; orange – diqu; red – city and regional.

As we have argued before, the form itself becomes the datum for our experience of urban things. Technological and historical forms reference our experience of the realities of 'city' and 'neighbourhood'. These forms are, in the modern city especially, also those of the technological systems – like public transportation systems – we use to spatialise our actions. There is a process of systematisation going on, aligning neighbourhood things with other neighbourhood things, city things with other city things through two scales of grid and through the public transportation system. There is a whole level of embedded organisation which is a planning of the 'sensible'.

This form as a set of networks or infrastructures then mediates encounter. Whereas the planning diagram of hierarchical structure bounds the elements of this structure, this form defines things like neighbourhoods and cities not in terms of their outlines or in terms of what they contain, but rather in terms of where they are centred. A spatial logic of 'articulation' (of the space of the neighbourhood with that of the city) is set up where activity centres depend on the 'interface' between the internal relations of neighbourhood and those of cities. Facilities are not held within boundaries at all but are rather encountered in use and in movement. The different scaled facilities and different scales of activity are superimposed and open to one another on the streets and we see this reflected in the high levels of activity on the streets. The centre of the neighbourhood (defined as a network) is a place in the city (defined as a network) and the activities and cultures of neighbourhood and city are articulated in the place itself. These places are technical

arrangements or constructs. Because we are talking about two different spaces at neighbourhood and city scales there is no confusion; the fact that functions of different scales coexist next to one another on supergrid spaces represents order rather than disorder and is indeed the reason we have hypothesised for the vitality of these spaces.

On the supergrid we find not just neighbourhood (shequ and pianqu) scaled functions but also district (diqu) and city and regional scaled functions. How do the larger scales further differentiate in the urban structure? And how should we think of change happening when the ring road that is currently under construction is finished? In addition to the supergrid-neighbourhood grid structure we see an overlaid grid of higher-scaled roads that connect directly with the region. This means that some elements of the supergrid are also part of this regional-scaled structure. In fact all the roads connecting with the region appear to carry more higher-scaled functions and the dequ and city and regional scaled functions are located here. The problems of congestion in the centre mean that the building of specialised infrastructure for the region – and especially the building of a ring road – become viable and even necessary options. We should expect some of these functions, especially national and global business, to relocate to the ring road and in proximity to the airport once this is complete.

RECONNECTING PLANNING WITH HISTORICAL STRUCTURE

An attempt has been made to formalise these arrangements on the basis of the evidence of actual distributions. At the shequ and pianqu levels high levels of more local activity distribute themselves through the supergrid. We can trace where they appear by virtue of the distributions of functions but it seems they are related on the one hand to clear and open fine-scaled grids forming the interior spaces of neighbourhoods crossing the supergrid, and on the other relatively minor streets which directly link two parallel supergrid spaces. More work needs to be done to find the local geometries of these relatively local centres.

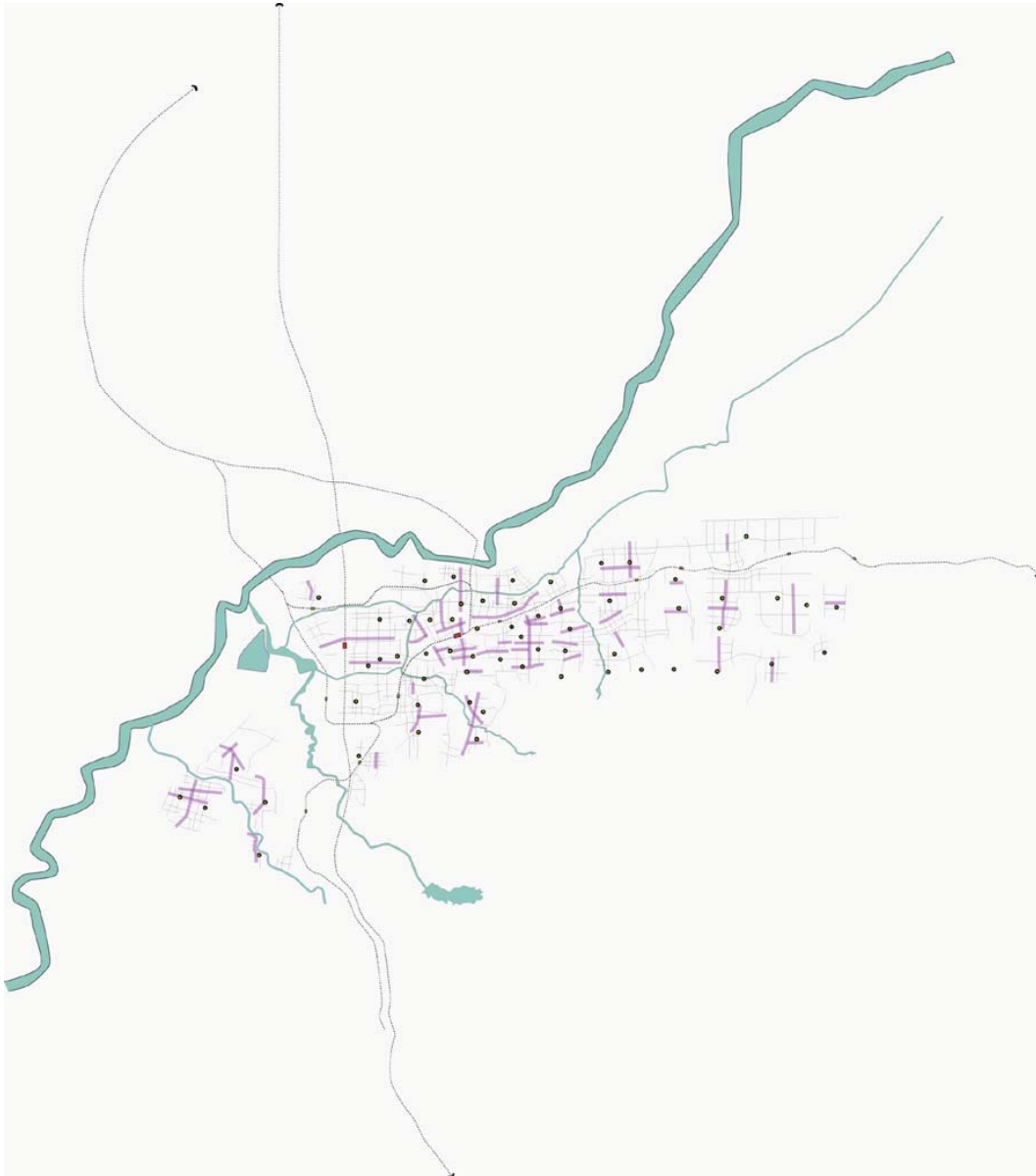


Figure 17. Distribution of shequ-pianqu centres.

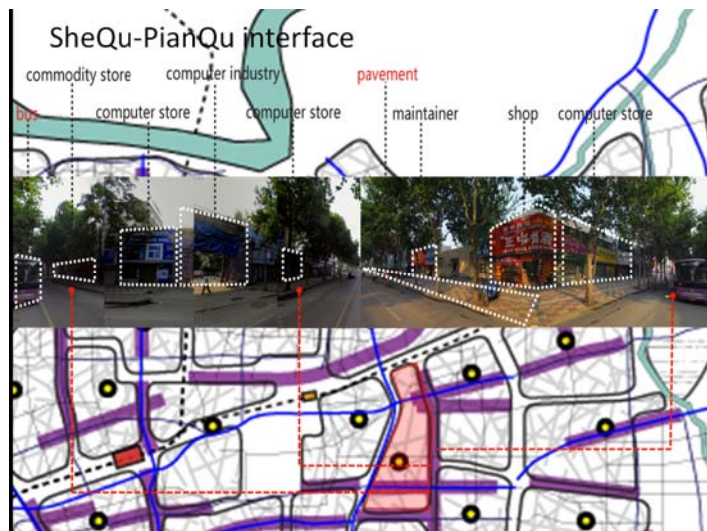


Figure 18. The ‘interface logic’ of shequ-pianqu centres. Shequ and pianqu scaled centres relate to the interfaces between the finer-scaled neighbourhood infrastructures and the supergrid.

But the way the city is structured around the supergrid is complicated today with the emergence of new larger-scaled structures that concentrate diqu and city and regional scaled facilities. We see especially the emergence of larger scaled structure facilitating an increasingly important metropolitan scale. This structure appears as a large-scale infrastructural crossing through the centre of the fabric, opening the historically-formed centre to this new scale. This also creates high levels of congestion however.

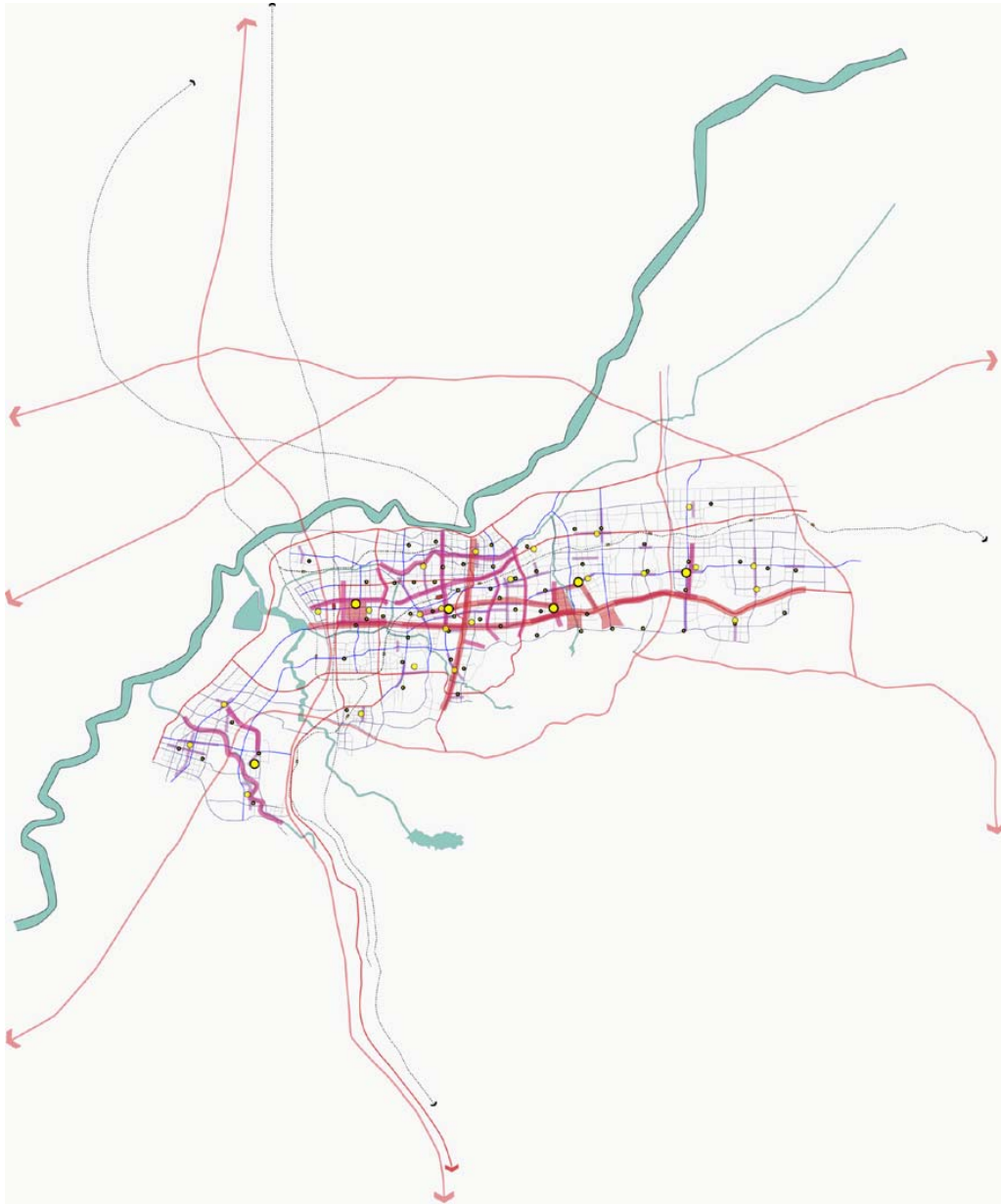


Figure 19. Distribution of diqu and city and regional centres.

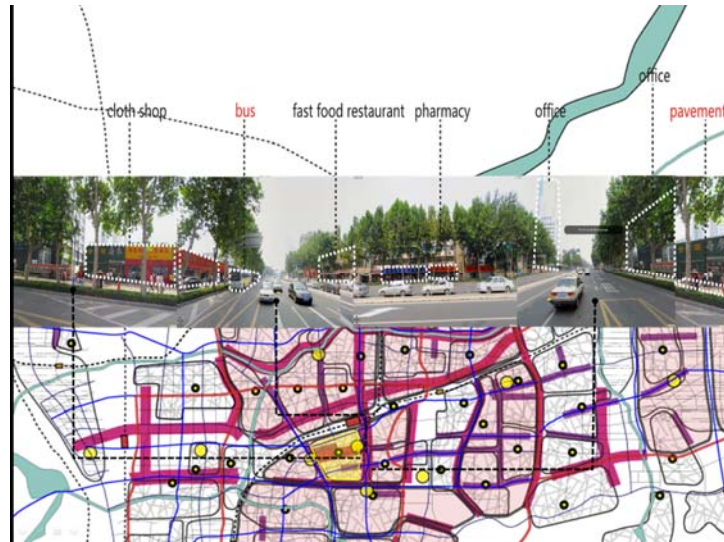


Figure 20. Interface logics of diqu centres.

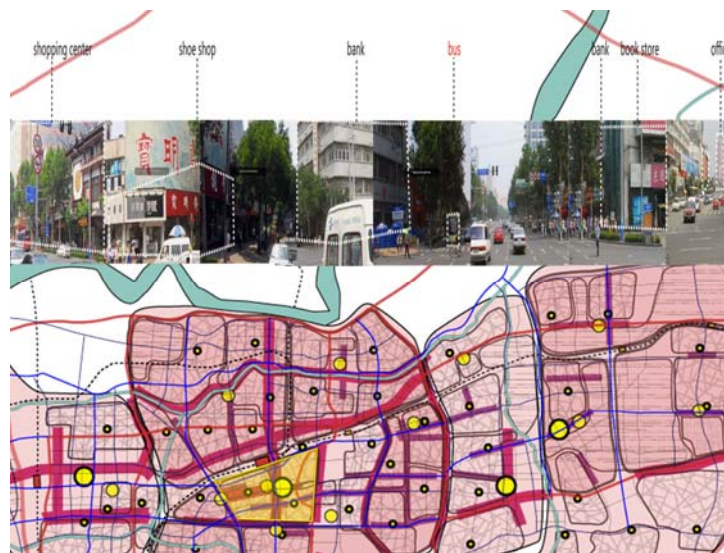


Figure 21. Interface logics of diqu centres.

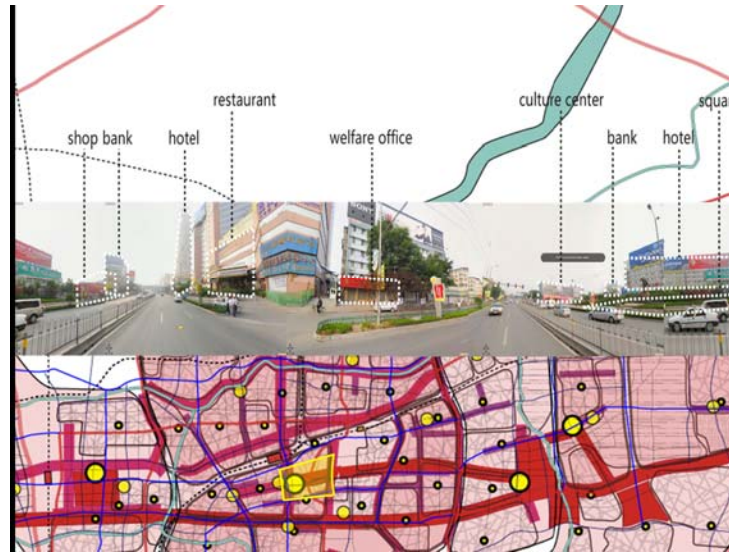


Figure 22. Interface logics of city and regional centres.

The current building of the ring road will facilitate the better structuring of these scales and we can expect that in the future this ring road will begin to concentrate regional scaled functions as has happened in Amsterdam, and in proximity with the airport. This will open an interface between the city and the region on the ring road and may see the relocation of many larger-scaled facilities and functions to the ring road itself.

CONCLUSION

The spatial order in which cities are distributed is one in which things are seen from subject positions within the fabric. The 'interiority of relations' we deal with in reality is not the same one we imagine from the outside where we see those relations drawn on a cartographic surface. Rather the relations are encountered in relation to forms which frames our knowledge, movement and action. These frames are not external to the encounter or knowledge of things or of situated action but are 'technological spaces' in which encounter, knowledge and action are mediated.

There is a different technologically supported 'diagram' of urban space, consisting of three grids superimposed on each other, each of which produces a different normative element: neighbourhood, city and metropolitan region; each of which exists in part-whole relations with the others. We use this model to investigate the form of the city of Jinan in China, asking about its relevance and how we can use it to promote planning for an active public space in new towns in Jinan. We contrasted form of the city assumed by Chinese planning with the actuality of activity patterns in Jinan and their historical formation. We asked how planning form needed to be translated here into urban form in order to promote public space activity in the new towns proposed and make some guidelines and suggestions for planners on how we can begin to do this. We have shown there is a viable urban hierarchical system which can be appropriated for the planning of different scales of social community. We have shown how the use of this hierarchy opens hierarchical levels of 'communities' and facilities and their orders of activity to one another, while maintaining them as orders, with the result that street-level activity is promoted.

Such a system can plausibly be replicated in the planning of the new town centres. We have shown in addition how a new structure is emerging in Jinan related to the increasing importance of the metropolitan scales. The design of the new towns and the plan of the structure and relations between all these new elements will have to also take account of this new scale and the ring road-metropolitan transportation system will be the 'technological space' in which they are accommodated.

The question of why a model derived in European conditions may help us in China is relevant. Although this 'neighbourhood' form has been naturalised and incorporated in planning and political spaces in the European context (notwithstanding the fact its 'diagram' is misunderstood) in the Chinese context the 'neighbourhood' is not as clear a concretised concept. There is an open question still concerning Chinese 'neighbourhoods' and their definition. The relevance of the concept is supported by the fact that both were subject of urbanisation under conditions of industrialisation and both are undergoing transformation under conditions of metropolitanisation. The relative lack of neighbourhood definition may be given by a different historical (big block) form of the neighbourhood with its greater separation between supergrid and neighbourhood, and a relatively greater historical importance of the political dimension. This factor of the Chinese neighbourhood in historical and contemporary forms will need more research.

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