

PROJECTS  
FOR:  
**ANHAI**

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a critical hypothesis for preservation and transformation

Manuela Raitano

Luca Reale



## PROJECTS FOR :

«Projects For:» is a book series dedicated to architectural design in international contexts. Looking at our own way of practicing architecture through the lens of "difference" can help magnify its identity, pointing out its most relevant characters and providing an appropriate ground for critical thinking. Creating designs – or reflecting on projects – conceived for "elsewhere" can, in our opinion, become a powerful tool to understand how to make architecture. The series wants to provide a space dedicated to this critical activity, where the pretext of a specific location around the globe can serve as the center of gravity for design-oriented considerations.

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## PROJECTS

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## INTRODUCTION

### Fujian. Tradition and contemporaneity

Manuela Raitano, Luca Reale

In the mid-twentieth century the British biochemist, historian and sinologist Joseph Needham started a monumental encyclopedic work on the history of science and Chinese civilization. *Science and Civilization in China* (7 volumes, Cambridge University Press, 1954–2016) strongly contributed to spreading into the West the idea that the Far East brought a crucial contribution to the western scientific thought and technology. Thus defeating that cliché, so widespread in Europe, that innovation in Chinese culture was limited to some specific fields (art, agriculture). While it was often forgotten «that long succession of technical discoveries which the West took over from China during the first thirteen centuries of the Christian era, often without the slightest realisation of where they had come from» (Needham, J., Vol. 1, p. 9). Let's consider in our case of interest, for example, the constructive and engineering skills in building roads and bridges. During the Song Dynasty (960-1279), in the first half of the 12th century - in just thirty years - 15 kilometers of megalithic stone bridges were built in this region to connect jagged coastal territories, engraved with estuaries, canals and marshes; they include also the extraordinary Anping Bridge, located in Anhai town, which we will largely describe in the text. This bridge, that shows a strong ability to transport and maneuver stones up to 200 tons in weight, shows also a terrific technical ability that has not yet had a shared explanation among Chinese historians who study that period.

But what mostly surprises western architects who - like us - for the first time visit Anhai and the Quanzhou area in the Fujian region, is the wealth and constructive wisdom of the ordinary residential fabric, from the collective houses of the Hakka in the mountainous inland areas (made of wood and raw earth), to the courtyard houses of traditional villages (made of wood, stone and bricks), sometimes still well preserved, often incorporated into contemporary productive or urban fabric. Courtyard houses are then characterized, besides a very clear typological-distributive system, by very sophisticated and ingenious wooden building technologies.

From the other side, it is less immediate to recognize a form of scientific and

Fig. 1: A wall in Anhai that shows the alternation of bricks and granite stones, a typical solution of the residential architecture in the Fujian coastal strip.

technological progress when we think of the tradition of Geomancy. The *Feng Shui* - that even Needham considers a “pseudoscience” - still enjoys a certain credit in the population and in professionals, especially in the south areas of China. Beyond the somewhat caricatural interpretation of *Feng Shui*, proper of the “globalized version” imported from the 1970s into the Western world - a version that suggests a generic “respect for nature” - there is no doubt that this very ancient form of theory who guides the arrangement of an architecture in its landscape, has greatly influenced philosophical thought and representation of architectural space in China. And if some prescriptions simply refer to common sense and the comfort of living (approaching a sensitivity that today we would call bioclimatic) while other provisions touch on superstition, there is no doubt that the *Feng Shui* spirit has always brought with it a strong aesthetic component, “which accounts for the great beauty of the siting of many farms, houses and villages throughout China”. (Needham, J., Vol. 2, p. 361).

Many years after Joseph Needham wrote, the conditions have changed profoundly. Nowadays China, from an economic, technological and cultural point of view, is a reference point for the planet - just think of the prestige and the ever-increasing ranking of many of its universities. Furthermore, in recent years the People’s Republic of China has definitely taken the path of environmental sustainability, beginning to reverse a trend that in past decades put it at risk. Despite the continuous urban growth and its rapid transformation, today China is going on a fast track to a green future, assuming a leading role on a global level as regards the production of energy from renewable sources, the limitation of fossil fuels through the replacement of means of transport with electric vehicles, the interception of CO2 through large urban and regional forestation programs.

The challenge for the near future will consist mainly in the attempt to combine on the one hand this new technical and financial leadership - which continues to produce rapid development - with the demands of the environment and the landscape. On the other hand, it will be necessary to make sure that this rapid technological improvement and this strong tension towards the future, will be carried on also considering the preservation of the cultural, material and immaterial heritage. In fact P. R. China still preserves a priceless treasure of intellectual resources and cultural values, also made up of traditions, vernacular wisdom and manual skills, which testify to the depth of its civilization and which are still not completely protected. Rather, they should become integral elements of inspiration and cultural reference, due to that technical-scientific and intellectual inventiveness that qualifies nowadays this country, on the global scene.

So, while analyzing urban and territorial events of a medium-sized Chinese town, “Projects for Anhui” approaches some paradigmatic themes of recent Chinese transformations: the relationship between the countryside and the city and the need to identify its borders; the issue of housing, including skyscrapers, gated communities and eco-villages; the difficulty in preserving the historic courtyard residential fabric (very extensive, disposed on one floor); the continuous contention on the territory between industrial and productive activities and river landscape and agriculture; the need to restore the continuity to the historic building fabric and, at the same time, the need to preserve urban voids, to be strengthened as new public spaces for the community.

As for the themes listed above, the book is structured in four sections, differentiated by subject. The first three parts present an analytical point of view, while the final section tries to summarize what has been described in the previous chapters, in order to propose an intervention strategy.

The first part, entirely written by Luca Reale, presents the city of Anhui from the point of view of its relationship with the territory, analyzing its external and internal borders, with particular reference to an important historical artifact, the Anping bridge, which represents the millennial overcoming of a natural obstacle. The second part, entirely written by Manuela Raitano, presents the city, its architecture, its main historical monuments and the characteristics of its courtyard buildings. In these two sections the main critical issues are also analyzed, to begin to outline ideas for future transformations that respect the building heritage of the city.

These first two chapters of the book are then followed by a section, written by Francesco Camilli and Daniele Frediani, dedicated to the workshop experience, which we conducted in Anhui, on November 2018; a group of Sapienza students participated together with a group of students led by prof. P. V. Genovese, from the Tianjin School of Architecture in northern China; so, somehow, all the students were outside observers, but from different distances, and this was part of the seminar’s success.

Finally, in the last part, the authors try to outline a brief summary of the covered topics, proposing some strategies that will concern both the scale of the landscape and the urban scale; these will be strategies for revitalizing public spaces and enhancing the local landscape: strategies that could guide local government development actions, through which we hope to give our humble contribution, as Italian scholars.

Finally, we also hope to strengthen, through this work, the value of that exchange of knowledge that every academic internationalization should foresee, as its main ambition.

## ACKNOWLEDGMENTS

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# THE LANDSCAPE



# 泉州府山險水道

北至仙遊永春

每方二里八十  
廣百十  
仙遊界九里  
三十八里  
四里十



北至仙遊永春

東至海一百三十三里

東至海一百三十三里



# MOUNTAINS AND WATERS

## Landscape, geomancy and urban settlements

Luca Reale

«The nation is ruined, but mountains and rivers remain»  
*Du Fu* (Tang dynasty)

One of the first thoughts that captures the visitor of the Fujian Province is that the geography of this area is both cause and engine of any human transformation. In this sense Fujian condenses in its physical characteristics and in the morphology of the land the man's architecture and the structure of its landscape.

The southeastern area of China, including southeastern Zhejiang, the entire territory of Fujian province (1), part of Guangdong, Taiwan and Hainan and the autonomous region of Guangxi Zhuang, is characterized by the presence of suggestive mountain ranges, plains narrow coastal and short rivers flowing from the mountains to the sea (Fig. 1).

Fujian, in particular, is made up of 90% mountains and the remaining part from a swampy area. The flat area is interspersed with numerous river deltas (the delta of the Pearl river, the delta of the Hanjiang river, the plain of the West river, and the river Minjiang Valley).

For this reason, Fujian has historically been rather isolated from the rest of the Empire, maintaining a substantial cultural and linguistic differentiation. This large variety of populations and traditions is clearly reflected in the diversity of forms of the settlements.

The region has a subtropical climate that is both warm and humid, characterized by numerous precipitations. The chain of the Wuyi mountains (武夷山), which separates Fujian from the north to Jiangxi, blocking the cold winds, at the same time retains the moist air from the sea. This has produced over time a very particular climate and a consequent very marked biodiversity, both in terms of flora and fauna, making this area the most relevant for biodiversity conservation in southeastern China and one of the most outstanding subtropical forests in the world. The Wuyi Mountains have been listed since 1999 as a UNESCO World Heritage Site (a protected area of about 100 km<sup>2</sup>), for cultural, landscape and biodiversity values (2). Very wooded and sparsely

Fig. 1: Map of Fujian, Quanzhou Prefecture.  
Source: *General maps of Fujian Province*, printed edition dating from the Daoguang reign (1820-50) of the Qing dynasty [detail].

populated, these mountains are famous for their timber, bamboo, and have long been renowned for their excellent tea (3).

Marked climate differences occur between coastal and inland areas, as well as between mountains and plains. More accessible by sea through ports, its internal territory has been colonized by populations such as the Hakka who have safeguarded traditions, settlement and construction systems, customs and agricultural techniques (Figs. 2-3). And these settlements remind us that this region, despite being close to the sea, has originally the same characteristics of isolation and cultural autonomy as some of the most protected and remote provinces of China. Not only because of the mountainous territory, but also due to the particularly insidious nature of the flat land. The coastal strip in fact is made up of marshy and swampy lands, inlets of the sea along the coastline and frequent deltas of rivers that descend from the mountains. The result is a territory that, since ancient times, has been very difficult to connect transversally to the system of valleys/ridges (prevalently perpendicular to the coast). It is therefore very rooted that tradition uses boat bridges to overcome these large fords. Chinese pontoon bridges and floating structures are among the oldest forms of military engineering in the world. In their simplest form, they consist of a series of boats, tied together with a catwalk above them. During the Song Dynasty (960-1279) some boat bridges were “translated” into stone bridges. We must take into account that the issues related to the particular geography of this region have substantially influenced the nature of the settlements and architecture, also for reasons linked to the strong tradition of *Feng Shui* (风水, literally: wind and water). In traditional Chinese culture, but especially in the south, the belief is still widespread that *Feng Shui*, a geomantic omen, influenced the fate of a family and, under this custom, the location of homes and tombs of their ancestors was crucial. The importance of symbolic orientation in building activities is an element whose origins are lost in remote antiquity. Historically the doctrine of *Feng Shui* was divided into two schools: one of which - called the Ancestral Method - is the one that developed in Fujian in the Min region (4).

The solution *bei shan mian shui* (背山面水, “having the mountain behind and facing the water”) was often adopted empirically already in pre-imperial times. This configuration is still evident today in China in many traditional architectural structures, temples, tombs or palaces. In some circumstances the influence of large-scale *Feng Shui* is very evident: the urban structure of Beijing Ming - with the construction of the coal hill (*Jingshan*, 景山), an artificial relief that protects the Forbidden City to the North, the creation of artificial water mirrors and the location of the doors in the defensive



Fig. 2: Aerial view of the Hekeng *tulou* cluster.  
Source: *Google Maps*, 2019.  
It is possible to recognize the collective housing in raw land and the terraced cultivation of tea.

Fig. 3: View of the Fanqing Lou from the bank of the Chuxi River, Chuxi *tulou* cluster.

walls - demonstrate faithfully enough the application of geomantic theories. Just as, on a more architectural scale, the entrance to the traditional Beijing courtyard house (*sibeyuan*, 四合院) was always faced south. According to the general rules of *Feng Shui*, in particular those of south-eastern China, the ideal sites for settlement (Fig. 4) can be simplified in two models: for sites in mountain river valleys the settlement should be located on the slope of the mountain, with the water that wraps around the front and front of the “screens” (mountains in the distance) (Fig. 5). For lowland sites, a settlement should rest on the water, ie a settlement is generally linear with its back to the river and the front along the road (5). The oldest urban centers of Anhui and Shuitou (the two “twin” town connected by the Anping Bridge) faithfully respect this approach.

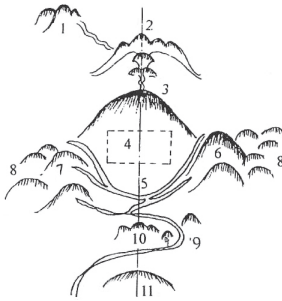


Fig. 4: Ideal *Feng shui* city site model.

- 1,2. Ancestral dragon mountain
3. Main dragon mountain
4. The side is broad, level and rectangular
5. The facing river curves like a band
6. East mountain
7. West mountain
8. The protective hills
9. Water-mouth
10. The table hill
11. The facing hill

Source: Jun Luo, Xiaoxin He, *Fengshui and the environment of southeast China*, in “Worldviews”, Vol. 4, No. 3 (2000), pp. 213-234.

In general in the Fujian Province, the dispersed nature of the arable land and the wide availability of water have led to a widespread configuration of small villages that take shape according to the topographical and social local conditions. A particularly unique form of settlement of impressive fortified buildings, castlelike, are found scattered in the counties of Longyan, Nanjing, Shanhang, and Yongding of southwestern Fujian as well as in the northeastern province of Guangdong. Multi-storey walled villages with walls of raw earth (*tulon* 福建土, literally earthen buildings) were built here over the centuries by the peoples of Hakka, a Han Chinese ethnic subgroup that migrated to the region from central China (6). The Hakkas migrated rather late in these harsh areas and found themselves not welcomed by the previous settlers. Although substantially a population of farmers, they expropriated marginal lands and built complexes of fortified buildings with thick walls of compacted earth. These houses in raw earth, extremely massive and densely lived organisms, made with the same techniques from the 16th century until the 1990s, represent one of the most extraordinary forms of collective living in history. These architectures-cities of circular or square plant could accommodate up to a thousand people each. This way of living tells us at the same time an example of an ancient community culture that combined the principles of *Feng shui* linked to the geography of the position, the natural environment and the wellness of the man, with the choice of protected sites, well exposed and ventilated, and responding to the morphology of the places. They could have up to three hundred rooms to accommodate an extended family or clan, who share a common surname. In the inner courtyard, used for drying clothes, tea or rice, or for children to play, there are sometimes service facilities: stables, toilets, kitchens, schools. These architectures, timeless and without architects, still inhabited by hundreds of thousands of people, have



太保相宅圖



Fig. 5: A late Ching representation of the selection of a city site; the geomancer is consulting his magnetic compass.

Source: J. Needham (ed.), *Science and Civilisation in China*, Vol. 2, *History of scientific thought*, Cambridge University Press (1956), p. 362.

dimensions that reach up to 70 m in diameter and 5 floors in elevation, surely constituting the tallest earth built works in the world. The Fujian *tulou* - still inhabited by the Hakka populations today are therefore witnesses of one of the most conscious and sustainable ways of inhabiting the Earth, a model of



Fig. 6: A narrow side door of a residence in the ancient center of Anhai. The use of facing bricks and large granite slabs characterizes the traditional architecture.

Fig. 7: the traditional single-storey courtyard house in Anhai.



sustainable development that emblematically tells a circular economic cycle that produces no waste: building materials are local earth and wood. When these structures are abandoned, they simply return to nature. Partly protected for a few decades by UNESCO, Fujian *toulu* is now in the balance between the inhabitants' need to adapt their housing to a contemporary standard of living and the risk that these places are transformed into places dedicated to exclusive touristic use. Obviously these extraordinary housing structures owe their fortune - and partly also their good level of conservation – also to the peculiar conditions of isolation and complex accessibility of these remote Fujian valleys.

But Fujian, in addition to *toulu*, also presents other historical urbanization forms of great interest, both in terms of settlement and in terms of architecture and construction. We are talking about structures even less known and studied than *toulu*, which make our text somehow pioneering, in the hope that it will serve to ignite attention on an important context. Quanzhou area, Anhaizhen in particular, has a dual territorial system: compact villages based on centripetal settlement structures, which still retain a substantial part of the original single-storey housing (Figs. 6-7), and networks of commercial villag-



es based on a strongly linear development along the main transit and market roads. In some examples, as in the center of Anhui, the two systems overlap. Around and in the midst of this network, increasingly complex and in recent decades strongly stratified, the flat and marshy landscape (partly reclaimed) occasionally resurfaces. One of the challenges for the city in the coming years will be to try to reconnect this crown of swamps and wetlands, that historically mediated the passage from the ocean to the mountains. Using the landscape to revive and build both new and existing urban infrastructures. After twenty years of tumultuous urbanization, with a forecast of growth in the urban population area compared to the rural one in the coming years (7), the issue of protecting what still remains intact in the historic centers (Figs. 7-9) and the recovery of rural countries and inland areas is becoming increasingly important in today's cultural debate in China.

Not only UNESCO, but also many foreign nations - through research organizations, institutions and universities - are offering their own contribution and know-how in addressing these issues. In Europe the same reflections have been at the center of the debate on cities since the years of reconstruction after the Second World War.

