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A Building Rising From the Hilltop —Three Topographical Approaches to Building in a Landscape

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ABSTRACT

This essay writes on a building project in the remote southwestern China that is built in uninhabited and is inspired and informed by its landscape context. The essay discusses how an extraordinary building project reacts to three different dimensions about landscape–architecture—a natural terrain being manipulated and recast. A small building needs to find its precise connecting point to a much larger historical and environmental context. A practical project needs to reach a balance between architectural pursuits and engineering concerns. Initially, artificial works might be isolated from and in conflict with the terrain, which requires architectural approaches to reconciling the demands at different scales and of functions. Finally, people who use the building will move forward to an effective and open dialogue between architecture and its landscape settings.

KEYWORDS

Landscape–Architecture;
Terrain;
Topography;
Panzhihua City;
Mountainous Building;
Context

HIGHLIGHTS

- The topography is incomplete, different from the rationale of Euclidean site planning commonly found in cities
- The project's "starting point" both concerns surveying and determines where the meaning of the architecture began within the wilderness
- The artificial "ground" is the much-needed "midpoint" to balance the architectural form and the natural environment
- This approach of landscape/architecture reassembles the components of the site into a new architectural/natural hybrid

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1 Origins of the Project

It is very difficult to establish the normal premise of this project because it lacks a familiar "context." The "context" of a design is not simply geographic data. If we only consider the latitude and longitude, the project site Qinglong Mountain, located in the city of Panzhihua in Sichuan Province, has a clear "location" since it is so close to the city's airport. Every inch of land can be depicted by data, and even drones are able to identify that this location is not suitable for taking off. However, on the other hand, I have never found the place "Qinglong Mountain" on the map, for which I can only generically refer to my work as *A Building Rising From the Hilltop*.

Place names like "Shanjiang Tian" (Gelder's Crop Field), "Wachuan Jing" (Boat-digging Bamboo Grove), "Maitian" (Cornfield), "Gouba" (Ditch Bund), and "Baishi Wan" (White Stone Bay) are the most prominent on the map. However, such vulgar names neither hint at what happened in the wilderness nor provide the exact shape, characteristics, and range of space. Near the construction site, even such vulgar names are missing, leaving a blank on the map. Actually, at the foot of the mountain, there were scattered sheds with roofs made of blue steel tiles; while there were scarcely any man-made structures along the newly-built road towards the hilltop. However, the mountain was covered with *Bougainvillea* spp. and some other cash crops (Fig. 1).

In the southwestern part of China, unlike the desolate landscapes of Mars, topography of the boundless mountains provides the most powerful "context." But for us, the topography is incomplete, especially different in connotation with the geometric areas commonly found in cities. It is fair to say that the site of the project can hardly inspire me with any design ideas at the first glance, because its redline boundary is not the three-dimensional structure presented in the projection and it has no specific starting point or orientation (Fig. 2). As David Leatherbarrow, professor from the School of Architecture, University of Pennsylvania, said, "sublime landscapes oppress, beautiful landscapes enchant, and the landscape here slowly leads one into a contemplation without an object..."①[1].

2 Encountering the Topography: The Invisible Starting Point

Throughout my limited practice as an architect, though with few projects completed, I have visited a diverse range of building

① In the book *Topographical Stories: Studies in Landscape and Architecture*, Leatherbarrow redefines landscape design and architecture as a shared art that revolves around topography. According to Leatherbarrow, broadly, topography is the intervention of the man-made environment on nature, including not only the constructed structures, but also marks of events. Through these marks, human habitation cultures are preserved and renewed.

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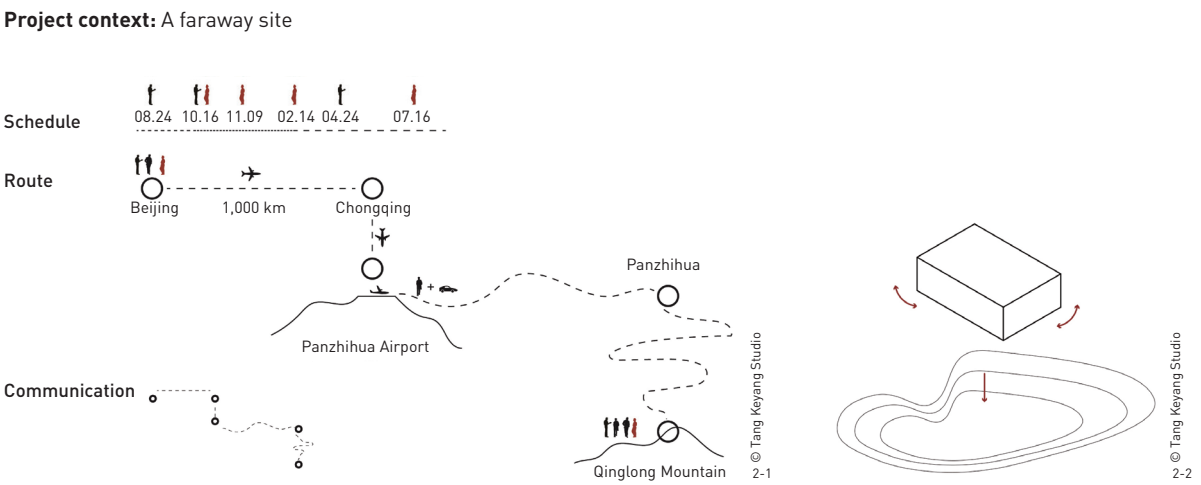
1. The author surveyed the project site on Qinglong Mountain in 2015.



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2. The significant "context" in the project "A Building Rising From the Hilltop": relationships emerging between various locations and users (Fig. 2-1); the topography here lacks conventional indications of a specific starting point and orientation (Fig. 2-2).

sites. They were mostly flat, for which the design should begin with exploring the analogical associations between two separate things. For instance, the exterior of a sports stadium could be "a lotus," "thousands of willow leaves" or "bamboo nodes"②[2]. However, in October 2015, I wanted to present a different logic to convince my client and said that "this place is just like Tuscany"③ (Fig. 3). Besides the similar mountain ranges and valleys, the mangoes, pomegranates, sugarcane, and bougainvillea growing here can also evoke images of foreign olives, grapes, beets, and pastures. However, I myself understood clearly that it was an "imaginary Italian place," no matter how similar they were. As required by the national economic development, agricultural economy was transplanted to Panzhihua, for which no clue from the hilltop could be provided to the design of this project.

Within the field of vision, it was challenging to speculate on the origin of this scenery. Looking to the north of the site, the shining area in the distance was the reflection of the Jinsha River. To the south, where it was invisible on the hillside is the airport as said. On this vast north-south-oriented flat hilltop, planes took off from the south to the north, overlooking the site of this project (Fig. 4). As the hilltop was extremely high and rugged, one must navigate several significant bends along a winding road of three or four kilometers to reach it. The location was said to be unfriendly for planes to land as the airflow would rise along the topography. But I could hardly perceive what was happening overhead or tell the direction, feeling like being surrounded by a cluster of mountains.

Mountainous landscapes share similar visual illusion—it is difficult to find the "exit" immediately or orientate without hints from the large rivers. A few Chinese cities built in such spaces cannot be simply seen as a "region," but rather unique three-dimensional "objects." For instance, the Neolithic Shimao site, dated to around 2000 BC, challenges the common notion that huge ancient capitals were typically without guards (and not built on hills)④[3]. In modern terms, the site also had an articulated spatial order composed of gates, axes, main thoroughfares, central districts, and so on (Fig. 5)[4]. However, a plan map alone cannot conclude on what such a city is; you have to experience it on-site to grasp the actual feeling it imparts. Artificial structures span

② Kai Cui, the chief architect of the China Architecture Design & Research Group, held that even though the architectural structure solves technical problems, it might not be beautiful enough; sometimes, the owner is also not entirely satisfied with the abstract beauty of the structure, and hope that the building can be symbolic, which requires us to add something to the originally clear structure.

③ Tuscany is a region located in central-western Italy, with the famous city of Florence as its capital. The area is characterized by its mountainous terrain, adjacent to the Apennine Mountains' branches, and with hilly landscapes in the south. It shares similarities with Panzhihua in terms of sunlight and climate conditions, and is renowned for producing olive oil, wine, etc.

④ In the book *Dynamic Interpretation of Early Cities in Ancient China*, Hong Xu, archaeologist and researcher at the Institute of Archaeology, Chinese Academy of Social Sciences, challenges the traditional view of "every settlement has walled enclosures." Many well-known ancient Chinese capitals had both outer and inner enclosures, but he argues that in the early ancient urban development, capitals did not have outer enclosures most of the time. Moreover, cities usually take advantage of their prominent topography to form the natural boundary.

3. Scenic landscape of the hills and valleys in Tuscany, Italy.
4. Contrasting artificial topography and natural conditions during the early construction of Panzhihua City (formerly known as Dukou City).
5. Modern construction near the Shimao site, where the terrain within a large area clearly exhibits the distinctive characteristics of a mountainous city. However, the eastern gate site reflects the common spatial orders such as gates, axes, main thoroughfares, and central districts commonly seen in subsequent Chinese urban planning.

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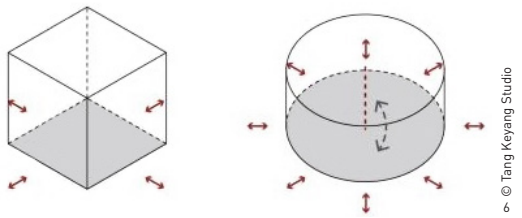

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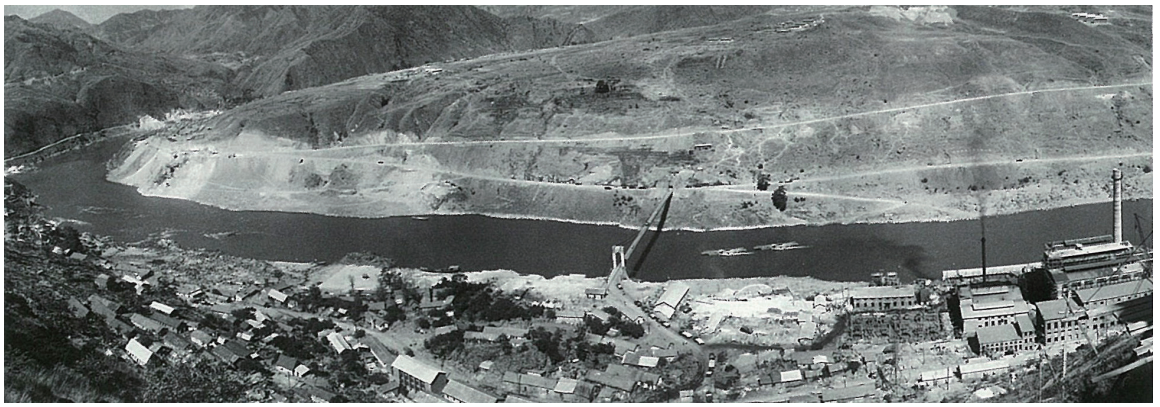

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gullies and ridges, rendering the orthogonal system of horizontal and vertical lines ineffective. Square is specially used to describe plains, while circular places can be found anywhere and the surroundings of such a mountainous place seem to radiate from wherever you stand. It actually is an illusion created by motion. Squares pertain to static compositions, easily disrupted with slight deviations, whereas circles represent one's continually evolving spatial perception on the relationship established between people and the environment, not about resembling something or being "to the east," "on the right," "behind," or "the tenth," but about "center–edge," " inherence," "each other," and "next" (Fig. 6).

6. Squares pertain to static compositions, whereas circles represent your continually evolving spatial perception on spaces.
7. Aerial photograph of Dukou City in 1967. The "fractal" and "topography" shown in this map of a large area were shaped by folds caused by tectonic activities, surface runoff, and climate change. They differ significantly from artificially constructed terrain.

This perception differs from the macro geological knowledge. According to satellite maps, the terrain here shows distinct orientation—folds of the mountains run from north to south, with the slightly gentler zone in the middle being where the project is located, which might also provide a basis for the airport's location selection (Fig. 7). If zooming in, it can be found that the extension of the runway aligns with the border of the Western Sichuan Plateau and the Chengdu Basin, and highways in this region generally follow this direction as well. These north-south ridges formed by tectonic activities millions of years ago create most of the east-west rivers and streams. They then erodes foothills on both sides of the ridgelines, forming valleys perpendicular to the north-south folds, like ribs intersecting with the backbone of a fish skeleton. This process then brings about finer flows, which together form a perfect mathematical structure known as "fractals"⑤. Among them, the larger ones flow into the Jinsha River, promoting cultivation in more areas.

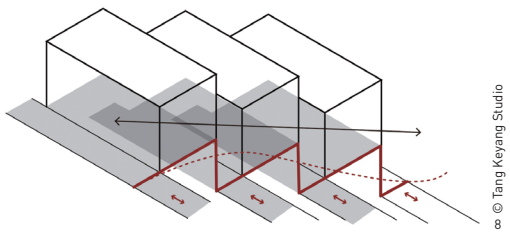
Carving through the myriad of mountains, river hydrodynamics manifest as unusual complex "lines," while shaping unique spaces. Rivers serve as a metaphor for the environmental history and the subject of the environment itself. This "situation" is a tangible "context," concerning both typology and morphology⑥. Because cities require not only space but also "development," which undoubtedly is a matter of time. As a city originated from the Han civilization, Panzhihua is spatially unique, positioned on the Hu Line[5] and at the edge of the former barren land. Meanwhile, it is temporally crucial—the unique spatial location continually drives its interaction with the outside world, in which process "time" fosters for "development" and opportunities for the rise of the city[6].

In history, there were only a few "mountainous cities"⑦ like Shimao[7]. Thus, agricultural communities in the past facing similar

⑤ "Fractals" in mathematics are structures that use similar geometric logic to depict a complex shape, with "chaos" being its opposite. Irregular phenomena are commonly found in the natural world. The chaotic characteristics of irregular shapes at the same scale can be explained as the progressive nature of the fractal logic at different hierarchical scales.

⑥ Typology and morphology are relative concepts. In Architecture, morphology studies the morphological evolution in the built environment, which involves not only changes of a particular architectural type itself, but also its correlation with external factors such as society and history.

⑦ In a narrow sense, "mountainous cities" refers to cities located in mountainous regions, occupying approximately 69% of China's land area. It is worth noting that there are also mountainous cities built on rugged slopes with gradient of over 5 degrees in plains and basins, covering 12% and 19% of the national land area, respectively.



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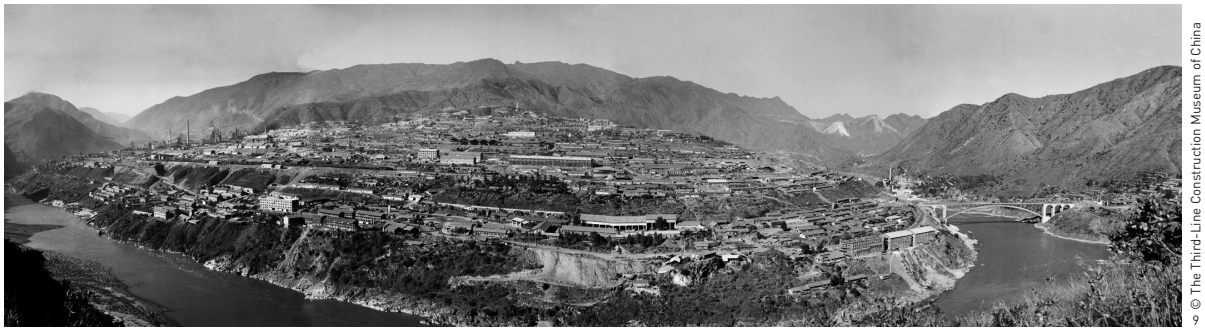

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mountainous situations could only attempt to "overcome" the difficulties. They tried to compete with nature to construct "mountainous buildings" on flat ground, but the inefficient production models could hardly help realize the motto that "man will conquer nature." For instance, beautiful terraced landscapes are of limited promotional value if not developed for tourism. "Who" consumes these landscapes reflects the question of fundamental survival in such a "context." In the 1970s, third-tier cities like Panzhihua realized their development benefitted from the logic similar to the formation of rivers—organic dispersion, compact concentration, balanced zoning, and multiple centers and clusters. Initially named Dukou City, Panzhihua was planned along the banks of Jinsha River according to specific conditions, partitioned into five areas based on the industrial nature, forming a 33-kilometer-long belt-like clustered city[8].

The project's site is located at the easternmost edge of Panzhihua, with a distance from the Jinsha River. There is no available spacious land along the riverbank convenient for transportation, and the logic for the architecture is formed by the slopes extending into the river. For instance, in order to save land and make full use of the barren hills, we adhere to the principle of "going up the mountain and the slope." The steel plant was arranged on slopes with gradients of 8% ~ 10% and a height difference of 49 meters; arrange the whole steel plant on three large terraces and 23 small terraces, which occupies less than half of the land of similar steel plants at that time[8] (Fig. 8). Thus, local industrial buildings started to create complex artificial topography, functioning as a production machine for complex spatial forms. The "roads" here are not necessarily designed for people; iron ore is transported using inclined shafts, coal mines use cable cars, and steel plants employ belt conveyors. In utilitarian transportation design, motor roads combined with tracks, terraces, elevators, and water transportation, have reduced the excessive reliance on railway transportation of coal mines and steel plants (Fig. 9).

While these spaces are brilliantly arranged, they are not suitable for residence. Some small- and medium-sized industries, warehouses, and residential areas are arranged on slopes with gradients of 10% ~ 30%. Although the terrain changes more greatly than the plants' site mentioned above, each building cluster itself is often independent and presents its three-dimensional characteristics as a whole, lacking the potential for casual interplay between each other as seen in spaces like Walden 7⑧ (Fig. 10) or those depicted by Giovanni Battista Piranesi⑨. Residential areas are arranged in conjunction with the mountainous terrain, maximizing the number of stories.[8] When going down to the ground, the ingenious design of the production lines vanishes—streets still struggle to converge onto the same plane, constrained by the flat logic of conventional cities. The new building types formed

⑧ The Walden 7 designed by Ricardo Bofill is different from ordinary apartment buildings. It consists of one or more basic modules of 28 square meters for each, presented in various combinations, and forms a vertical maze with 7 interconnected inner courtyards.

⑨ Since the Roman times, Western architecture has allowed three-dimensional volumes to develop almost freely in space. The construction system based on beams, columns, and floor slabs indicates usually that "what you see is what you get," i.e. the means are almost the results. In contrast, the interlocking of layers in the Eastern wooden construction system is much more complex, and buildings tend to be more planar. This not only greatly increases the difficulty of vertical interconnection, but also places more limitations on the horizontal expansion of the building.

8. Arranging the steel plant on the terraced terrain of the mountain allows for efficient adaptation to production needs, while not significantly altering the urban planning logic that unfolds on several planes.
9. Panorama of the Panzhihua Steel Plant (photographed in June, 1972). The early appearance of the plant area was the combined result of manual construction and mechanical operations.

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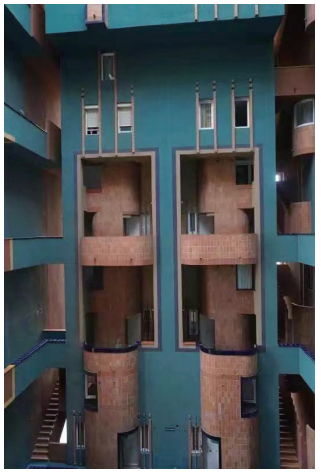

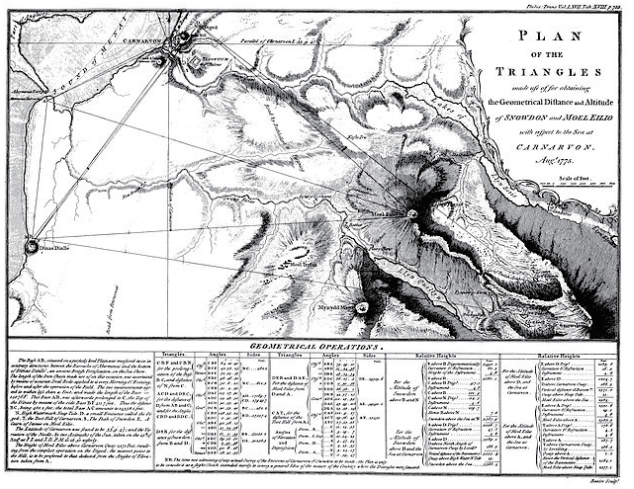

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10. Walden 7 located in Barcelona, Spain (photographed in 2015).

11. Diagram of the triangulation method, first developed by Willebrord Snell in 1617 (Source: Ref. [10]).

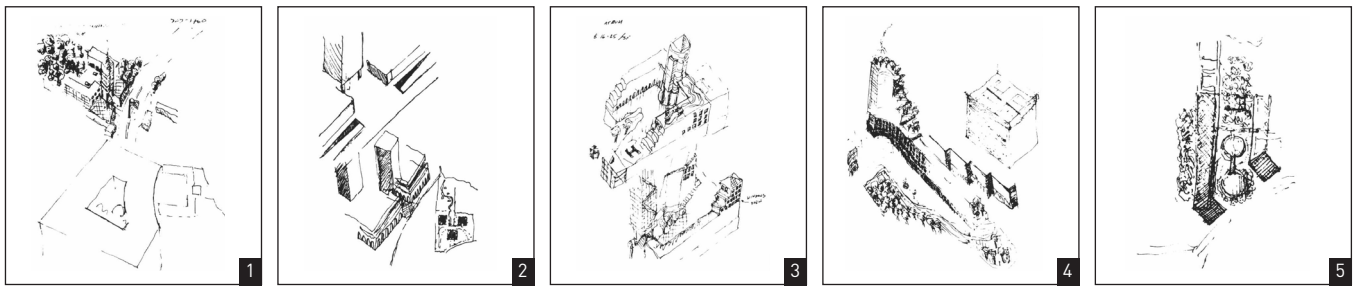
unexpectedly and the natural topography they are based on are not truly integrated. So, even if it becomes a city spectacle like modern Chongqing, the fundamental meaning of a three-dimensional form has not been fully assimilated in proper ways. Unlike cities like Rio de Janeiro or Lausanne, it is undoubtedly a Chinese city created by the planning system inspired by plain settlements.

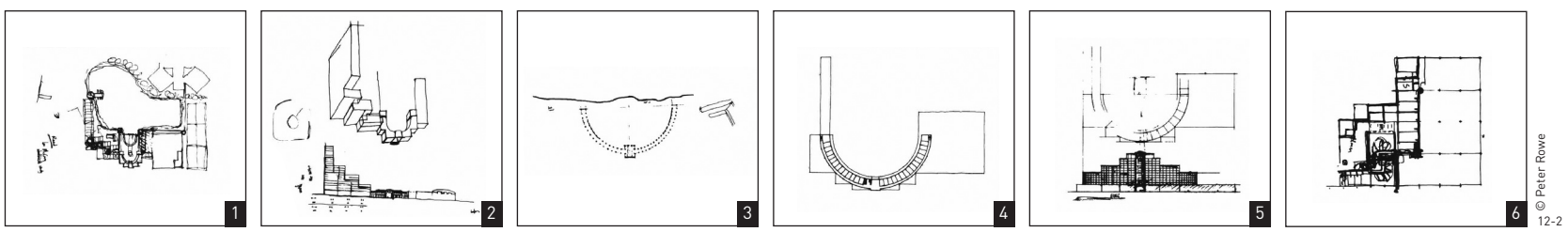
Just as the confusion when reading the Shimao site, we are not sure whether we understand the site under our feet—the lack of a clear starting point made it possible to reinterpret the mountainous space. My early landscape architecture study experience taught me that there is no need to rush to find a starting point as it is relatively existing and can be found everywhere. For example, in the coal mine fields of western Pennsylvania in the USA, we used the method of "triangulation" under the teacher's guidance to survey the site. Detached from the absolute zero point, this method required us to keep moving around the site, with your body being part of the measuring instrument. The nominal starting and ending points were determined by physical stamina, and the third point to be measured was actually on the other side of the line connecting the nominal starting and ending points, a place you could not reach temporarily (Fig. 11)[9][10]. Instead of forming a self-referential loop of spatial interpretation, it weaves an uneven, decentralized terrain network. The finer you divide it, the more accurately this network can express the true conditions of the terrain. The basic surveying method is clear but mundane, yet what stands out in finely detailed terrain is the incredible feature of boundless dispersion, which is unrelated to arbitrarily designated starting and ending points.

3 Walking on the Terrain: Gradually Clear "Midpoint"

In 2014, in order to host an art exhibition about local history, I first encountered the scenery along the Jinsha River. When we visited the site again the next year, Panzhihua had already undergone some changes. Despite still lacking arable land, the region's agriculture had found new support. Panzhihua, situated amidst nature, faced relative scarcity in terms of agricultural resources. This was not surprising, as the efficiency of cultivation depends on planting conditions and the production and yield of different crops under various economic models. Since the first unit of the Ertan Hydropower Station generated electricity in July, 1998, the air was no longer as dry as before. Thanks to the unique tropical and subtropical climate conditions, it became possible to grow crops with higher economic value. The surface of the barren hills had been replaced with characteristic fruits, high-quality tobacco, economic forests, and even home for livestock. Here, there was no boundless expanse of agricultural landscape, and the three-dimensional features remained intact—though artificial, they were "naturally" growing.

The dream of adorning the landscapes of southwestern China, akin to "Tuscany," with a building was to be realized. Unlike ancient terraced fields that were primarily suitable for manual cultivation, this new type of agricultural economy embraced the natural terrain. It started with a municipal road, and gradually, electricity and water supply, marking the potential for urban-style development. The opportunity for development was a gift from agriculture because the region was positioned to develop "agricultural economy." In





12. Comparison of two design approaches in the design process: one based on the contextual evolution of the components (Fig. 12-1) and the other on the architectural "type" (Fig. 12-2).

⑩ The "internalization" of the landscape in architectural design involves the connection of two different mechanisms. Firstly, the human experience of dependence on the environment is embedded in the "body" of a building, and the natural environment is domesticated into something understandable by human senses. Secondly, the "body" is metaphorically portrayed as an enlarged "landscape," which includes both pure physiological experiences and rich spatial "symbols."

this setting, human-made and natural elements were awkwardly but seamlessly integrated. The redline continued to separate construction land from rural farmland, but within a few kilometers of this wild landscape, there were no public buildings typically found in urban areas. In such circumstances, it was crucial to identify the project's "starting point." This point was not just a matter of surveying; it was about determining where the meaning of the architecture began within the wilderness. In the limited area, how could it create a man-made landscape connected harmoniously with the true natural scenery?

Architectural educator Peter Rowe scrutinized two typical sketch patterns generated by "design thinking" (Fig. 12)[11]. One pattern involved less surprise, as designers followed established conventions and somewhat less innovative architectural programs. After outlining the overall structure, they delved into specific contemplation of internal relationships, contemplating the advantages and disadvantages of the derived elements. This method may not be very innovative, but in reality, there were always "surprises" that changed the project's premise. The other pattern began from an uncertain starting point to another equally uncertain endpoint. Designers repeatedly sketched from one detail to another on paper, taking the design in different directions. However, essential connections were indispensable for efficiency. Even if the phases were not very continuous, and the results of the design appeared vastly different, the scope of work remained under control.[11] These two ways of thinking could be metaphorically associated with two great architects' or two types of works. They both demonstrated the significance of incorporating "landscape" thinking into design. One is Ludwig Mies van der Rohe, whose works, from Farnsworth House in Plano to the Neue Nationalgalerie in Berlin (Fig. 13), seemed to maintain a relatively steady architectural logic. Although the site conditions varied dramatically, the environment was internalized within the architecture⑩. The other is Frank Lloyd Wright, whose work of Fallingwater and other rural residences always perched in the crevices of nature, expanding into the surroundings and becoming an extension of the landscape. Spaces created by Mies began with architecture but ultimately culminated in diverse landscapes. In contrast, Wright emphasized the natural logic, but what stood out in the end was the significance of human-made structures (Fig. 14).

It is hard to say which of the above methods is more suitable for the building rising from the hilltop. Ironically, in such complex terrain where we need a context, it does not directly inspire us



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13. Works by Mies: Farnsworth House in Plano and the Neue Nationalgalerie in Berlin



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14. Works by Wright: Fallingwater and Prairie style houses

to do anything. Our architectural tradition lacks precedent for something similar to this "natural" condition. As mentioned earlier, this "urban" enclave far away from the city represents a situation of artificial intrusion to nature, which has never been seen in Chinese tradition. This is much like that the value of Chongqing in the history of Chinese urban planning is difficult to explain. Mary McLeod Bethune suggests that this highlighted urban contextualism⑪ is more of a challenge to homogenizing, dehumanizing modernist architecture, because people inherently dislike "isolated blocks, concrete pavements, pedestrian overpasses." Regardless of political leanings, overly harmonious nature can lead to complacency, while mundane and simple architecture often brings about more public, lively, and consequently more effective cities.[12] It is hard to say which form of contextualism is better, but as described by Rowe, you have to choose one now.

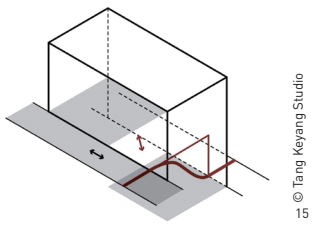
The main problem is not just the shifting starting point of the project, but also the unclear subject for the moment—who is designing, and who (possibly more than one entity) will be there to appreciate it? This goes beyond a single creative model and is not just about making architectural objects. If you place the definite geometric volumes, such as those in villas of Tivoli⑫ on a three-dimensional undulating surface, designs that depend on such irregular terrain often claim to be "gardens" in the Eastern sense for it is indeed hard to be classified. But it in fact remains a piece of Western architecture. Firstly, even in the midst of a vague process, you cannot get rid of accurate tools. Establishing the relationship between each mesh and other meshes on a three-dimensional polygon grid is both a technique and an irreversible condition of human habitat. It seems intuitive but is bound by the logic of rigid technology. Secondly, even if the experience of a landscape is highly subjective, once it becomes a mundane engineering matter, it will have definite project boundaries and uses. Even if you do not know where to start, the superior aesthetic experience has to comply with the basic requirements of the project cycle. In other words, when faced with an uncertain physical setting, at the very least, a timetable needs to be established. So, the "starting point" not only is positioned in a coordinate, but also signifies a moment. The first day of project implementation is the very moment we find the "zero point" for the blueprint—more precisely, it is supposed to be an unbiased "midpoint."

The cracks within architectural typology have inspired the definition of the "midpoint": in any building, even in urban areas, there exists an inherent imbalance. For example, the process of building terrace housing⑬[1] commonly seen in the UK and

⑪ In the latter half of the 20th century, architectural theory underwent a shift from a focus on making objects to an emphasis on context, which led architecture to gradually become "landscape architecture." Although various movements like the Civil Rights Movement and grassroots movements of the 1960s swept the globe, the emphasis on "nature" can trigger vastly different reactions depending on the cultural context. It might be consumerism of imagery in the USA, while academically-oriented Colin Rowe would advocate conservative Benjamin Disraeli and the Victorian era, and the contextualism in Italian urbanism emphasized left-wing ideals.

⑫ The Hadrian's Villa and the Villa d'Este, both located in Tivoli, represent two different types of gardens from the Roman period and the Renaissance period, respectively. However, their similarities outweigh differences—in both cases, the architecture is not embedded in the terrain, but becomes an integral part of the artificial landscape itself. The architecture adds meaning and becomes the primary significance of the site.

⑬ Architecture, as mentioned in the book *Topographical Stories: Studies in Landscape and Architecture*, can be understood as the natural result of human intervention on a site. According to the relationship between the building and the site, there are many building types such as garden paths, terrace housing, and primitive sheds. In the case of terrace housing, the technique is to use excavated soil to create a street in front of a row of houses, instead of transporting the soil away. Here the street becomes a level ground.



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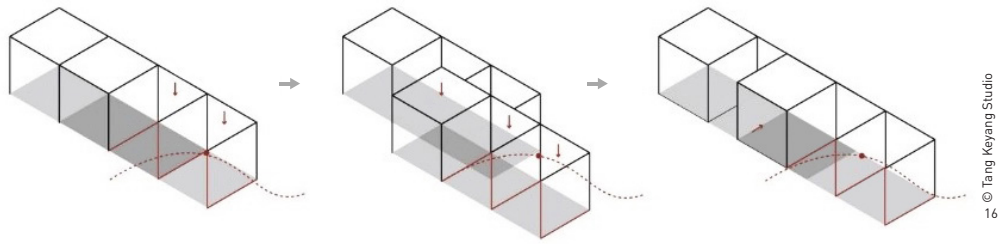

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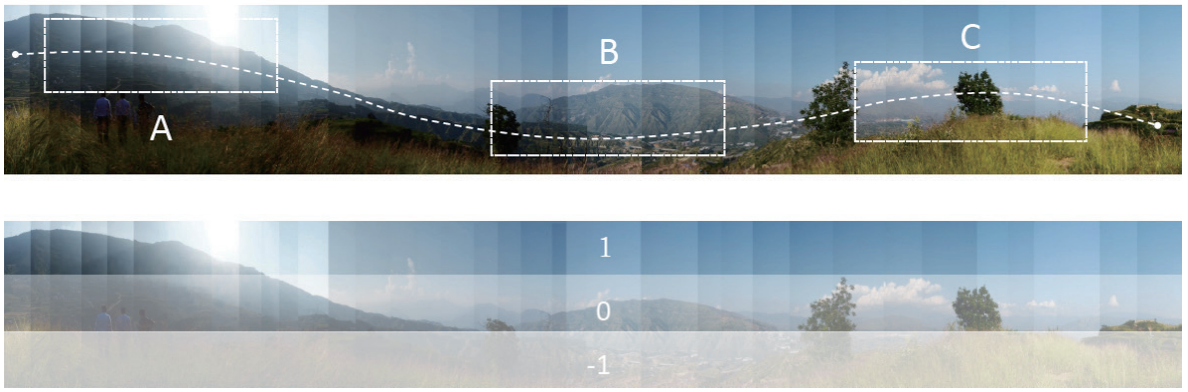
15. A schematic illustration of typical terrace housing, where the building requires the creation of a relative "ground." Simultaneously, the original terrain is correspondingly modified to adapt to the new landscape order resulted from artificial alterations.
16. An illustration of architectural rearrangement on the basis of the "midpoint" ("mid-layer"), to bridge the gap between artificial forms and the natural context.

the USA highlights the unapparent ground differences. One side of the ground is destined to slope downwards below the ground floor, which process requires the removal of topsoil to clarify the foundation's relationship with the surroundings. This operation involves the accumulation of the terrain, which, from an architectural perspective, is "negative" operation. On the other side, to make the floor level with the ground, excavated soil is used to fill in the hollows, accumulating positively for the building (Fig. 15). These two methods coexist in terrace housing, and their intentions can be entirely different. In one case, the building is located on a flat surface, helping fill in the grooves and smoothing out the wrinkles in the base. In the other case, when you turn the street corner, you will see that the building is actually embedded in the terrain, becoming part of the existing landmass. The different views in front and behind the house can be confusing to those entering the house. Inside, you encounter new terrain when going upstairs or downstairs to the basement, which intensifies the conflict between the original terrain and the urban context. Unlike skyscrapers, the ups and downs in these two or three-story terrace houses are essential relationships between people and the surrounding environment. It is not a passive adaptation but a reshaping of the terrain, with the most direct example being the contrast between the building's horizontal "ground" and the natural strata above and below it.

This artificial "ground" is exactly the much-needed "midpoint" to balance the architectural form and the natural environment. Over the review of a longer history, I realize that human intervention to the built environment have always started from this "midpoint," instead of the "zero point." It is essential to recognize that this "midpoint" is not absolute or inherent as we think (Fig. 16). A similar example to the terrace housing is the renovation of Weiming Lake area in Peking University, where the terrain is entirely transformed as a result of construction rules.[13] As the famous Chinese poet Shi Su pointed out in *The Towering Terrace*, it is clear that terrain transformation results in changes that are not entirely natural, but rather influenced by human intentions ("there is something remarkable about this place") and interventions.

Though I had been to Panzhihua for several times, there was only one chance for me to visit the site before the actual architecture creation. My design plan was more of a struggle arose from confusions on the space than a conventional juxtaposition of volumes and combination of forms. Walking through the wilderness along the only road, it reminded me "The Swiss Way"[14] (rather than churches in Tuscany), a landscape artwork of retaining walls, winding mountain roads, and rocks on the hill. In this setting, the difference between landscape and architectural constructs was not just about the presence of a building; it was more about humbly following the undulating topography in all directions, or perching on hilltops that the road traversed. The former approach helped emphasize the meaning of the terrain, while the latter was characterized by a simple placement that often concealed or suppressed the essential existence of the landscape.

Walking in the mountainous area, you can find countless "midpoints," as there will always be places above and below no matter going up or down. On the southwestern side of the site, along the zigzag mountain road, I walked a long way in the direction to the airport, realizing the subtle difference in perceptual patterns between architecture and landscape as mentioned earlier. Now you are walking in the mountains, not away from them. In the latter scenario, you would move through the valleys, along the saddle of the terrain, and on either side of the watershed. This allows you to ascend or descend quickly yet which does not replicate the relationship between flowing water and the land. It keeps you closer to the terrain but also at a distance



A	B	C

+1	+1	+1
0	0	0
-1	-1	-1

17. Site analysis based on contour lines and elevation variations of the terrain

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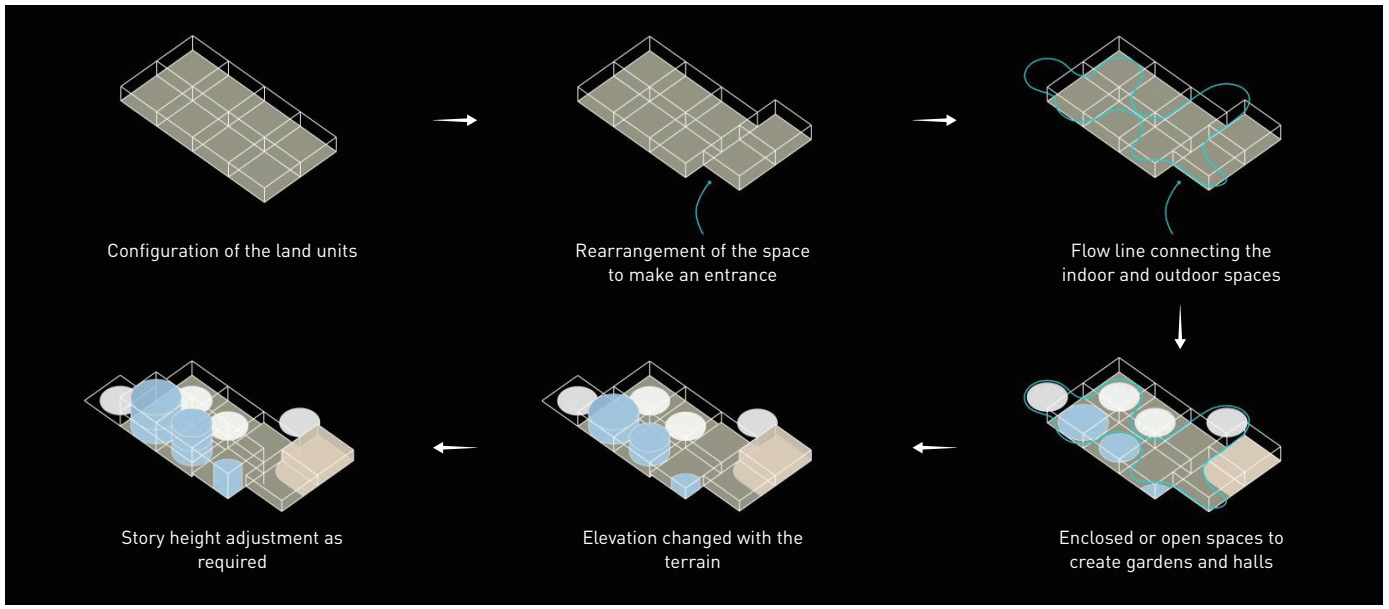
as it avoids danger, and communication between people and nature becomes difficult. On the contrary, when strolling in the mountains, the main focus is not on ridges or watersheds. The point is that in the modern context, the site needed a circulation for motor vehicle. It is characterized by smooth slopes, follows contour lines with minimal curvature, and places emphasis on what lies ahead, which is the focus of movement—connecting, while neglecting the variable relationships between the connection points. Although you are likely to see distant vistas as you drive, you are rarely close to them, and they do not align with the scale you expect. The landscape is still beautiful, but it is unlikely to generate organic architecture like the Fallingwater. The "agricultural development area" that has grown along the road is no longer purely artificial or natural. Instead, it embodies a bizarre standoff between them.

When imagining earth cutting or filling, I felt the pressure faced by architects of terrace houses: always trying to bridge the gap between artificial forms and the natural context, but finding it difficult to mediate their conflicts. While I was studying at the design school, I conducted an experimental project called "The Landscape of Boredom," imaging a dreamlike strolling road that was difficult to find in a real project context. Its primary spatial form was a continuous series of intertwined circles extending endlessly, but was also characterized by monotonous repetition. There were only shallow shadows on the terrain, meaning there were no significant structure that could bear or support the continuous changes, let alone countless meaningless turns that exhausted the potential of the site. In the center, where there was no shelter, you became more of an object being observed, rather than the observer. At such a large scale, the self-centered view of "roaming in a small garden path" lost its appeal.

4 Away From the Terrain: An Open End Point

In early 2019, I revisited the partially completed building rising from the hilltop. After selecting an elevation-based "midpoint," similar to the approach used in terrace housing, the architecture acquired two distinct orientations, "+1" and "–1." The overall form of the building was not intentionally shaped, but seemed spontaneously formed based on the gradually emerging external conditions (Fig. 17). The design accommodated those with mobility impaired, providing a gentle slope on the western side and a garden entrance that enable wheelchair access to most areas of the main floor. However, the more exciting starting point for the journey was the main entrance, located one level below the "midpoint." Here, you would ascend the large steps to experience a complete hilltop walk.

It is hard to imagine that even in an exhibition area of only 1,337.44 m^2, you can have nine or ten unexpected turns. Although the building roughly follows a grid of its columns about ten meters apart, there is no orthogonal order like ordinary architectures. Rectangular compositions are always disrupted by one, two, or even three rounded corners contained in each square, making open and fluid spaces. The weather of Panzhihua is relatively gentle and it is frost-free throughout the year. In the entire exhibiting area, it is possible to have only two units that are completely enclosed with doors and cladded with building skins (Fig. 18). Doing so significantly reduces construction costs. Part of the building interiors are open-air or semi-open indoor gardens, requiring no insulation or complex architectural equipment. As a result, the project did not significantly change the appearance of the ground. These mixed forms, square and circular, create a garden in both physical and psychological senses. The building



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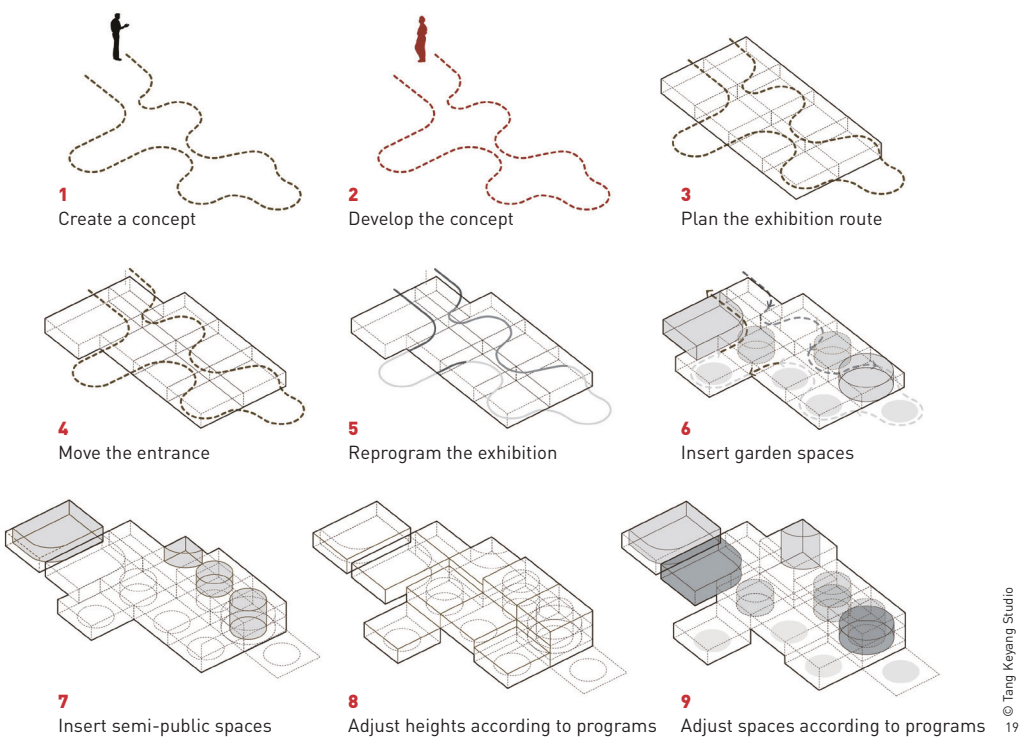
18. The interwoven logic of orthogonal systems and circular elements

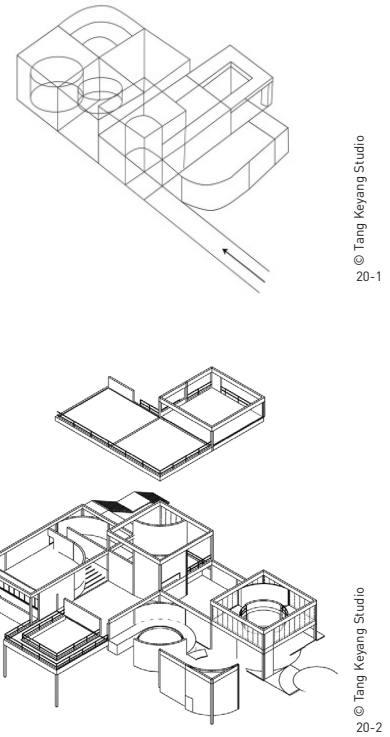
only settles on the flattest part of the site, but allows strollers to move onto a new artificial ground, canopied or exposed to the air, along sorted paths and walks, indoor or outdoor, with different up-and-downs. Such experience is consistent with but more dramatic than the original terrain.

Architectural creation is a form of contextual "writing" with the help of the landscape "words" The architecture itself lacks such context, and the breakthrough point is precisely the "nature" on which the project's city establishes itself. There are a series of self-contradictory expressions: the mechanism of natural landscape generation is different from the path how it is perceived. The former is macroscopic and far-reaching, while the latter is part of the traditional human habitat paradigm, often appearing as static gazing and contemplation. This seemingly harmonious relationship is nevertheless disrupted by constantly changing paradigms. Close to China's strategic inland industrial and resource center, Panzhihua is extremely far from where its product is consumed. The remote, mountainous location of the city helps hide itself for strategical reasons, while a modern city always needs be at least visible. The long-term development and short-range construction inevitably conflict. Its current growth is curbed by this contradiction at times. In 2014, I planned an exhibition at the Today Art Museum in Beijing for two artists from this area, titled *Yan–Liang World* (prosperity and decline of a city). The binary syntax "Yan–Liang" is exactly what impressed me in the history and reality of Panzhihua.

The logic of the binary world-making reveals that humans are both the subjects of general spatial writing and a part of this process. The term "settlement" not only links to the subject of construction, but also outlines the conditions under which the most essential human habitats occurred. The development of our project is exactly the opposite of the sequence described in *Topographical Stories: Studies in Landscape and Architecture*: humans do not truly merge with nature, but rather live with in a metaphorical (analogical) way. The changes found in the natural process, such as flowering and withering, are only the beginning of this co-existence. Experience is constantly changing and adapting. Human movement in the landscape will accordingly evolve from simple "processing" to "rambling," and eventually to "wandering"[2].

My journey began on the southern slope of the site, by the roadside of an existing road, which also served as the official entrance to the project, a simple starting point. It is similar to the initial intention behind the establishment of Panzhihua: selecting a few gentle slopes at different elevations to create terraces connected by staircases. However, in this project, pedestrians have more choices. You can choose to ignore the conditions of the architectural mass, pass by a high wall, or a lone, soaring circular tower. You can also discover a three-dimensional branching path from inside the building or pause in the middle section, realizing that the spatial logic differs with those of the ground, above their heads, and in the sky. Most of the time, the rooftops do not conform to logic of the ground, and interior spaces are also self-contained. In other words, there is no superficial "adaptation" here. The relationship between contours, spaces, and terrain is





19. Pedestrians' different choices of entrances, routes, and ways to perceive the building result in various configurations that integrate architectural space with the landscape context.
20. Axonometric diagram of the architectural space (Fig. 20-1) and layered axonometric schematic diagram (Fig. 20-2)

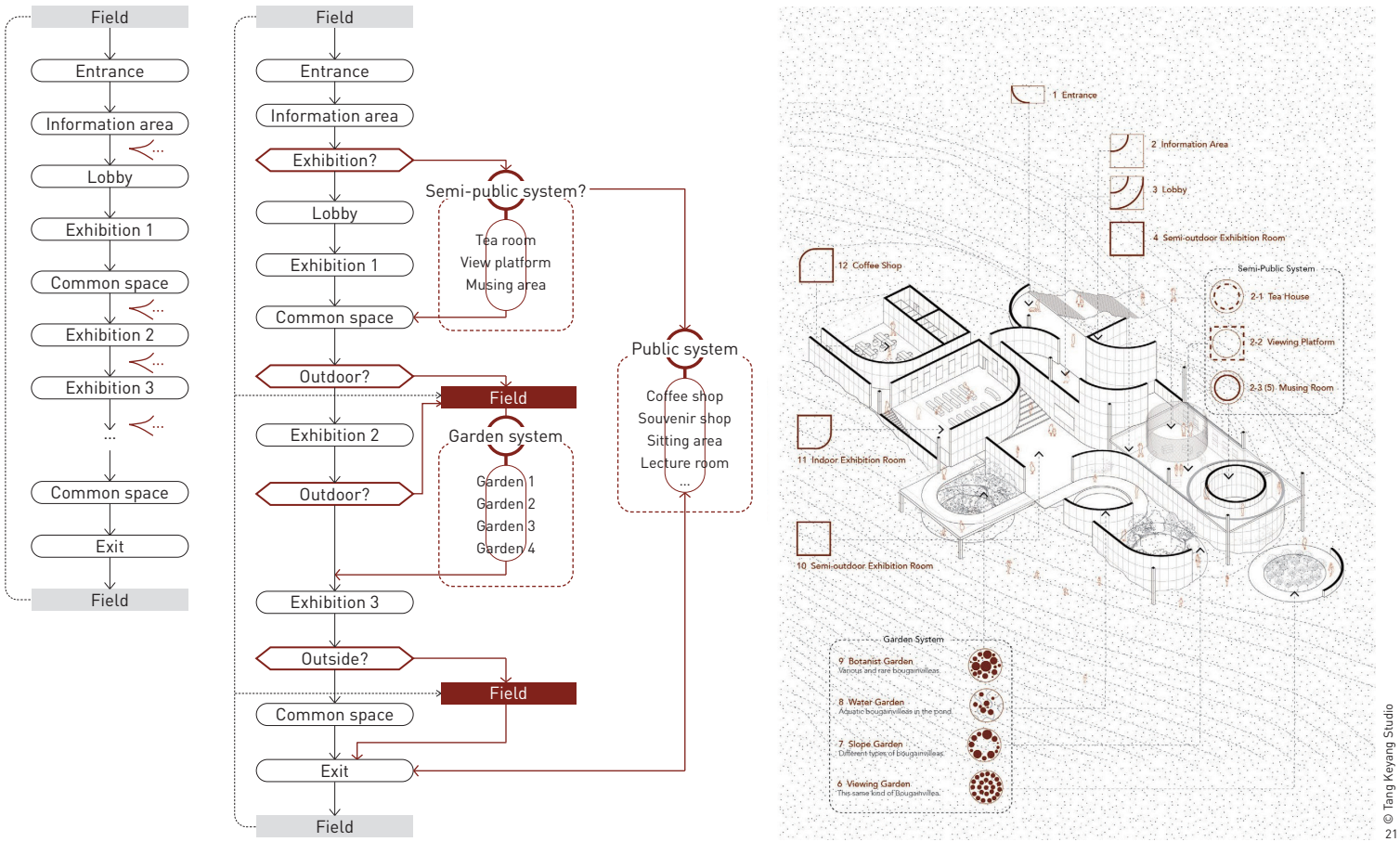
not determined (Fig. 19). The building is neither entirely "foreign" nor strictly "local." This is the approach of a sort of landscape/architecture, which mimics but does not merely replicate the logic of the site. It reassembles the components into a new architectural/natural hybrid, rather than just an architecture on the hilltop attached to the site.

You can enter this building from multiple different levels, which are, in essence, the "midpoints" of the project. The building appears in the form of a house, a special type of "nature," but does not have a clear starting point. This truly exemplifies the meaning of the term "free plan"⑭. A free plan is not only free because of its undefined functions but also because it is based on a "free" ground—the essence of a "natural" space that remains untouched by human ambition. The building's foundation is not substantial enough to be a true ground level; it lacks a solid base, and the columns rest on beams, unlike the Catalan vaults⑮ in the Barcelona Pavilion that can recreate the ground. This means that the original ground does not disappear, and the building is like an archaeological site that has not been filled in. Even the concrete platforms attached to this ground are more like a cantilevered gangway than true foundations (Fig. 20).

The uncertain relationship between the built structure and the ground is also an uncertain relationship between space and paths, transitioning from movement to a leisurely stroll. One walks along straight lines, (quarter) rounded corners, or their extensions, as if it were endless. It is like "The Landscape of Boredom" unfolding in the real world. However, at the same time, these paths define several square rooms, each of which is missing a corner. I stated to the client, "there is no room in the building that is entirely like a box...," the missing parts of the rooms happen to be windows or doors, and yet this absence allows the space to manifest itself. In this intertwining of contradictions, you can experience various types of spaces: the rectangular waiting area with rounded corners and exhibition halls with circular or square elements nested inside, like hollows in a rugged mountain cliff. Visitors can explore the same set of spaces from different directions and orders. In the end, we have a maze where one can wander endlessly (Fig. 21).

⑭ The concept of "free plan" was one of the five principles of modernist architecture proposed in 1926 by Le Corbusier and his partner Pierre Jeanneret. From a structural perspective, the free plan means that due to the use of frame structural systems, walls no longer need to bear the structural load, allowing for more creative design in dividing the floor plan. In this article, "free plan" signifies the organic and relative relationship between architecture and its natural environment, without being confined to a fixed orientation or starting point.

⑮ The "Catalan vault" refers to a low brick arch that can form a vaulted ceiling. This technique was employed in Mies van der Rohe's German Pavilion for the 1929 Barcelona International Exposition.



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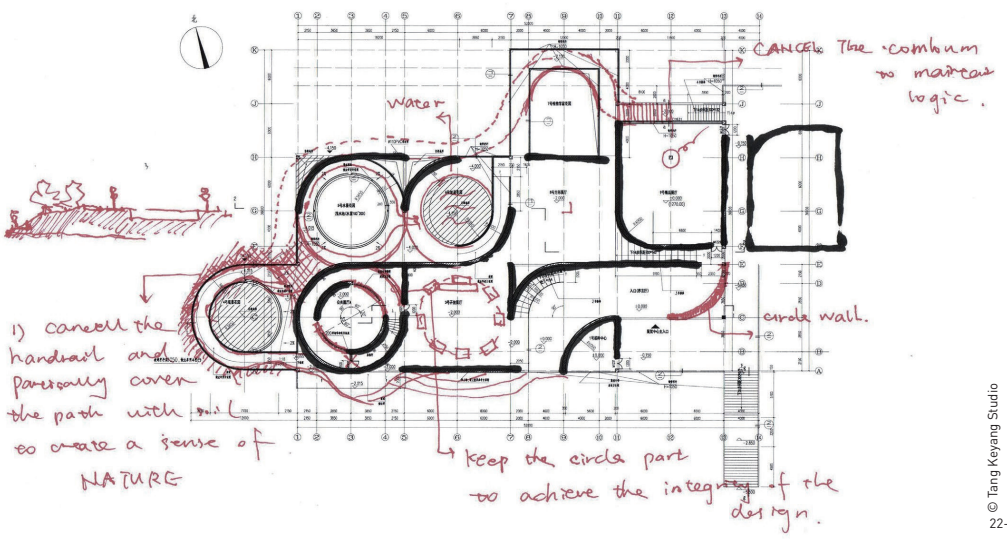
21. Spatial derivation based on the future performance logic of the building

In nature, there are few gardens "floating" in the air. For example, a cave with a canopy overhead and moss growing underfoot can hardly conjure up the scenic mountain peak above. The solid ground and the underground world are not easily compatible, and these two metaphors are difficult to reconcile. However, in this space, different fragments of the terrain may be connected by the same path and stacked together: whether you slowly ascend to the second level along a gentle slope where changes in elevation are barely noticeable, or climb the steep spiral staircase. The above options may represent different choices between the periphery and center of the same space. What occurs in different places on real terrain is listed, miniaturized, and eventually woven together in this space (Fig. 22). Along the gangway extending from the volume and to the north, you will be able to see magnificent mountain views, which, however, is not the most impressive "architectural landscape." When you enter the interior of the building, you will suddenly realize that you have also become a sight for other visitors—this is what a "landscape architecture" truly signifies.

This maze contains numerous Chinese garden metaphors. Can it be considered a contemporary "Chinese garden" or is it equivalent to some form of a garden in certain respects (Fig. 23)? Although Suzhou gardens and this project are both introspective, we cannot completely ignore the entirely different context of the project, remembering that the building on the hilltop is located 2,500 km west of Suzhou, and we cannot equate the abstract typological language with the space itself. The lack of detail in the architecture is due to the larger context it nesting in, including economic and cultural factors, apart from the project's limited budget. As a concrete building with a minimum cost, it is impossible to create a luxury classical Chinese garden—at most, there are a few associations with "gardens" in this project. You would not regard a place in the western wilderness as Tuscany only because there are olive trees and a suitable climate.

Even though it attracts visitors to keep walking inside, the house on the high mountain remains open to all sides. You cannot change what you see around the site; you can only reformat and reinterpret the process of people entering the landscape and re-experiencing the landscape. This condenses the phenomena and issues mentioned earlier. Remember, even the interior of the project



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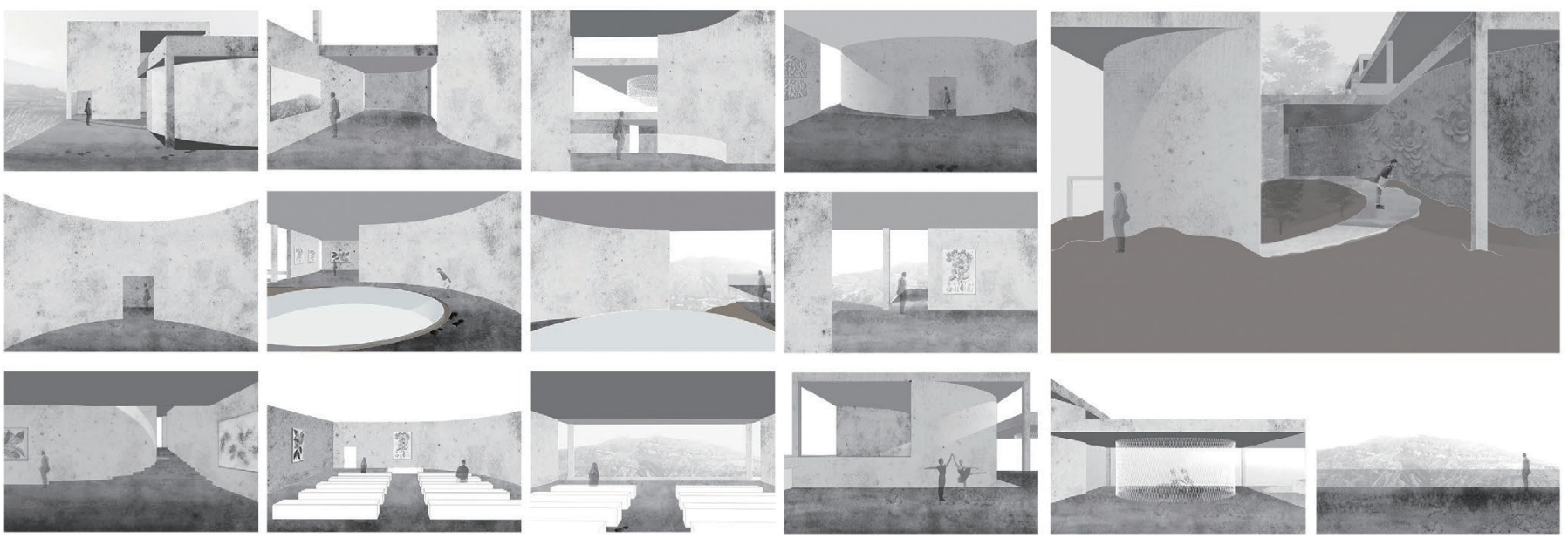
22. Refinement of the design sketch (Fig. 22-1) and architectural space model (Fig. 22-2)
23. Scenes from a person's viewpoint during the architectural concept design phase, where the interior of the building is also a part of landscape generation.

is still a part of nature, an external of the human world. Through any part of the building, you can see real nature. They are not purely distant views; they also overlap with some self-reflection (Fig. 24). You need to consider a sequence of questions: How does the building continue the logic of this site (and the local traditions the site is attached to), while expanding this logic within a limited range? This will be the triple imagination[16] revealed in the English gardens, as described by John Dixon Hunt: First, imagination of "a place" by foreigners or strangers, which is an imagination of elsewhere in a real space; second, imitation, which is actually the fabrication of a space that does not exist and an imagination of one space by another space; and third, translation among different cultural media, which is an imagination of a space from a text and concept. In a place far from the orthodox, the project we conceive

⑯ John Dixon Hunt, the garden historian, explained this concept during a conference held at Peking University's Institute of Humanities and Social Sciences on October 14, 2022, to illustrate the borrowing and imitation of Italian garden architecture by British artists and garden designers.



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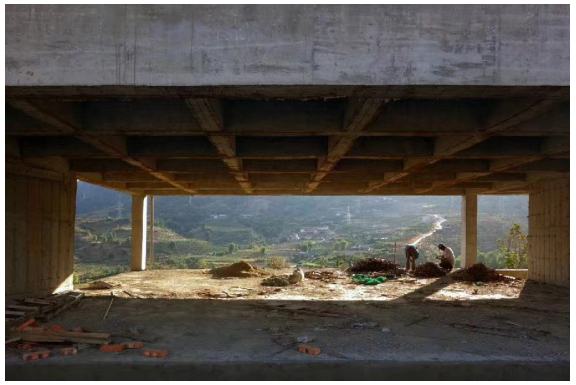

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24. Through any part of the building, one can see the real nature (photographed in 2019).
25. Conceptual design of the functional scenario for a "Mountaintop Art Museum"
26. The "Mountaintop Art Museum" integrated into the site—"raising the 'Nameless Mountain' by meters."

goes beyond the nostalgic model. It is not based on memories but on the space beneath our feet, which is often taken towards more distant places. Space realizes something beyond words, and this article aims to reconstruct the meaning of this space.

Now, the final question arises—what should be placed in such a space? We once called it an "exhibition hall" or "art museum," but does it really suit these purposes? The question of whether the form and the meaning match or not goes beyond the practical level and is not unique to this particular project. In the end, you will find that everything we have done is simply asking questions, but we cannot expect any answers. In true forms of landscape art, every aspect of design, construction, and maintenance is infused into an

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endless process of creation, never reaching a "perfect" state. This means that in landscape architecture, since the premise for man-made creations is the natural world, there is no real starting point, and it will never be completed. Maintenance activities will never cease, and the work remains in a perpetual state of "openness," yearning to be filled with activities and events (Fig. 25)—a feature that contemporary architecture with similar aspirations can envy.

Leatherbarrow's questions become increasingly urgent: In an unfamiliar landscape, what is it that makes a deep impression? When you engage and become a part of nature, what is it that allows people to continue recalling and identifying a landscape by your name (Fig. 26)? And, what makes you feel familiar?

ACKNOWLEDGMENTS

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高山上的房子
——“景观建筑”中三种不同的地形学方法

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摘要

位于中国西南边陲的“高山上的房子”项目是一次建筑借助景观的“写作”——建筑本身缺乏语境，是“自然”让项目所在的城市得以成立，也让项目自身得以充满意味。从自然地形到人工地形、到再塑造的地形，本文讨论了一个特殊的建造项目中包含的三种不同的景观－建筑议题，也就是单体建筑项目需要寻求与广义的历史－环境的上下文之间的精准联系，需要寻求建筑学原则和工程实际的平衡点。人工构筑物和地形的最初关系可能是互相脱离甚至有所冲突的，建筑学方法试图协调不同尺度和不同功能的诉求。最终，在不寻常的建筑和景观语境之间，使用建筑的人们将走向两者间开放和有效的对话。

关键词

景观－建筑；
地形；
地形学；
攀枝花；
山地建筑；
语境

文章亮点

- 项目地形是一个残缺的文本，与城市里常见的基于欧氏几何学的地形整治原则不符
- 找到项目的“基准”不仅是测绘的问题，更指建筑的意义从山野里的何处开始
- 人工的“地层”是所需的建筑形式和自然环境彼此协商的“中点”
- 项目利用山地“地”建筑的方法将基地的元素重新组装为新的建筑 / 自然混合体

编辑 王颖
翻译 唐克扬工作室

1 项目缘起

按照正常的思考方式很难确立这个项目的前提，因为它相当缺乏我们熟悉的“上下文”（context，又译作“文脉”或“语境”）。设计的“上下文”不是简单的地理数据，如果仅仅考虑经纬度，四川省攀枝花市青龙山也算有清晰的“地址”——毕竟，距离机场这么近，每一寸土地都不缺数据；在这个位置，无人机也知道它“无法起飞”。然而，事情的另一面是我从未在地图上搜到过“青龙山”这个地名，因此只能笼统地将我的作品称作“高山上的房子”。

骗匠田、挖船箐、麦田、沟坝、白石湾……这些才是地图上最显著的地名，这样俚俗的地名并未提示荒野中曾发生的事件，不能给出空间的确切形状、特征和范围。建筑基址附近，就连这样粗放的地名也没有，地图上空白一片。山下散布着无名的棚屋、蓝色彩钢瓦的棚顶；山上，沿着新建公路向着山巅慢慢行去，只有非常稀少的人造结构的

痕迹，但是漫山遍野又都是三角梅和其他一些人工种植的经济作物（图1）。

在中国的西南部，无边无际的大山并不是“什么都没有”的火星，地形是其最强有力的“上下文”——但是对我们来说，地形是一个残缺的文本，地形和城市里常见的几何区域的意义不符。这个项目的红线范围既不是投影图呈现的三维结构，也没有特定的起始和面向，可以说它尚不是一个立刻让你想做点什么的空间（图2）。正如宾夕法尼亚大学建筑学院教授戴维·莱瑟巴罗所说，“崇高的风景会给人压迫，美丽的风景令人陶醉，这里的风景则是让人慢慢地陷入一种无对象的沉思……”①[1]。

2 遭遇地形：不可见的起点

在我有限的职业生涯中，作为建筑师没有建成过几幢房子，但是我却考察过相当数量的具备多样性的建筑基地。很多时候基地大体是平的，设计的开端只好基于对两个独立事物彼此的联想，也就是“……像……”的句式。比如，一座体育场的外观，可以像莲花，像万千柳叶和竹节②[2]。2015年10月，我却想用苍白的语言，拿出另一套逻辑说服我的委托人——“这个地方就是托斯卡纳”③（图3）。除了山峦河谷相似，眼前种植的芒果、石榴、甘蔗、三角梅，也可以使人联想起异国的橄榄、葡萄、甜菜和草场。可是，用不着对方抗辩，我自己也明白：即使脚下的土地类似意大利，也是幻想之中的“意大利”，不具备比较的基础。由于发展次序的差异，攀枝花的农业经济是移植来的，眼前这个白手起家的山顶，其实不能提示什么明确的设计线索。

视野所及范围之内，不大能猜想到这片风景的起源。向基地的北边望去，遥遥发亮的地方是反光的金沙江；身后，山顶上面看不到的地方，据说是机场所在，在一条巨大的南北向的高山平坝上，飞机由南向北起飞，机翼下方就能看到我的基地（图4）。平坝高极，西北危出，要通过线程三四千米的几个大弯，汽车才能盘上这个标高。据说，正是这个特殊的选址造成沿着地形上升的扰动气流，让飞机时常降落不易。但是在我站立的地方，丝毫察觉不到头顶上发生的事情；总体上而言，你像是被群山环绕着的，分不出明显的方向。

所有的山地风景都有类似的视错觉——如果不是大河穿流，你一眼看不到“出路”，也没有明显的方向感。依这种空间而建的少数中国城市不是简单的“区域”，而是特殊的、形象鲜明的三维“物体”。比如，距今4 000年左右的石峁遗址打破了人们对上古城市“大都无（山）城”④[3]的印象，用现代术语概括，即它也有着门、轴线、主干道、核心区这类耳熟能详的空间秩序（图5）[4]，但是无法简单地通过平面图来理解，只有身临其境才能通晓它给人的实际感受：人工构筑物跨越沟沟坎坎，让正交体系的横竖线条失效；方形属于平原，圆形则可以属于任何地方，周遭事物仿佛放射状地从任何你站立的地方辐射出去。这实则是运动中产生的错觉：方形属于静态构图，稍一偏离便会失效，而圆形则是你不断获得的空间认知，关乎不断确立的人和环境的关系，不是看上去像什么，不是“东边”“右边”“身后”“第十个”，而是“中心—边缘”“内在于”“彼此”“下一个”（图6）。

这种认知和宏观上的地质知识不同。从卫星地图上看，这片区域的地形有着明确无误的方向性，山的褶皱基本上是南北向的，中间稍缓的地带就是项目所在之处——这大概也是机场选址的依据（图7）。把地图再次放大，会发现跑道的延长线将抵达川西高原和成都盆地的边缘地带，区域高速公路大体也是这个走向。亿万年前的大地运动让这些南北向间隔升起的山脊线，造就了大部分东西方向的地表径流，它们侵蚀着山脊线两侧的麓坡，形成与南北皱褶垂直的溪谷，如同鱼骨上与脊柱相交的小刺；然后又带来新的一轮更细小的汇流，如此反复，形成数学上被称为“分形”⑤的完美构成。其中较大的注入我们脚下的金沙江，江流所及，使得一些地方有了耕作的可能。

奔出万山，河流动力学呈现为不一般的复杂的“线”，同时也可塑造特殊的空间。河流是环境历史的隐喻，也是环境的主体，这样的“情境”是具形的“文脉”，不只是类型学，也是形态学⑥，因为城市不仅需要空间，也需要“发展”，后者毫无疑问是个时间问题。作为一座起源于汉文明的城市，攀枝花不仅在空间上特殊——位于“胡焕庸线”[5]上，地处“深入不毛”的“不毛之地”的边缘；在时间上也很关键——特殊的空间位置促使它不停地与外界交互，时间是推动“发展”的唯一可能，也是攀枝花城市兴起的机缘[6]。

① 在《地形学故事：景观与建筑研究》一书中，莱瑟巴罗将景观设计和建筑重新定义为一种共同围绕着地形的艺术，莱瑟巴罗所定义的地形是广义上人造环境对于自然的更动，不仅包括建成构造，也包括事件发生的痕迹，通过这些痕迹，人居文化得以保存和更新。

② 中国建筑设计研究院总建筑师崔愷表示，“当然有时我们感觉虽然结构解决了技术问题，但还不够美，有时业主也不太满足于这种结构的抽象的美，希望建筑具有某种象征性，就会在原本清晰的结构上再附加一些东西。”

③ 托斯卡纳大区位于意大利中西部，著名的佛罗伦萨市为其首府。此地多山，邻近亚平宁山脉支系；南部是丘陵地带。这里与攀枝花市有着相近的光照和气候条件，以出产橄榄油、葡萄酒等闻名。

④ 在《大都无城：中国古都的动态解读》一书中，考古学者、中国社会科学院考古研究所研究员许宏质疑了传统的“无邑不城”观点。中国古代的知名都城大多存在外郭城和内城并置的情况，而他认为在古代城市发展的早期阶段，绝大部分时间里都城是没有外城墙围合的，尤其是基于显著地形的城市经常利用这些地形构成自然的边界。

⑤ 数学中所说的“分形”（fractals）是以相似的几何学逻辑描述复杂形体的结构。自然界普遍存在不规则的现象，与分形对立的是“混沌”（chaos），同一个尺度下的不规则形体呈现出的混沌特征，在微观中可以解释为不同层级尺度的分形逻辑的递进。

⑥ 类型学和形态学相对。在建筑学中，形态学研究建筑环境中的形态演变，这种演变并非只涉及某个建筑类型自身的变化，更与社会及历史等外部因素相关。

历史上只存在着少数的像石峁那样的“山地城市”⑦[7]。以往，农耕民族面对类似局面只能去“克服”困难：“山地建筑”与自然争夺平地，由于缺乏高效的生产模式，注定无法做到“人定胜天”。例如，美丽的梯田景观，除非进入旅游者的视野，否则并没有多大的推广价值。“谁”在消费这些景观的问题，也就是这类“文脉”中体现的基本生存意义的问题。在20世纪70年代，像攀枝花那样发展起来的三线城市，如果说与河流形成的逻辑有所契合，那一定是做到了“有机分散，紧凑集中，分区平衡，多中心、多组团”——攀枝花，初名渡口市，“……规划因地制宜地沿金沙江两岸，按产业性质，分组分片地规划了5片用地，形成33km长的带状组团式城市”[8]。

笔者项目的基地位于攀枝花的最东边，距金沙江尚有距离。交通便利的江边并不存在宽裕的土地，伸入江中的山坡本身形成了建筑的逻辑：“为了节约用地，充分利用荒山，坚持了‘上山、上坡’的原则……钢铁厂布置在坡度为8%~10%、高差达49m的山坡上……将整个钢铁厂布置在3个大台阶、23个小台阶上……比当时同类的钢铁厂少占地一半以上”[8]（图8）。为此，本地工业建筑不惮复杂的人造地形，犹如一部复杂空间形式的生产机器，这里的“道路”不必然是为人设计的：铁矿采用平酮溜井，煤矿采用索道，钢铁厂采用皮带传输。在实用主义的运输方案设计中，机动车道结合轨道、台阶、升降机和水运，改变了煤矿和钢厂对铁路运输一味的依赖（图9）。

这些空间尽管极其精彩，却不能安顿人。一些中小工业、仓库和居住区布置在坡度10%~30%的坡地上，地形变化比大厂区更为剧烈，但是建筑体块往往“整存整取”，它的三维属性只体现在各自的区域内，不存在犹如瓦尔登7号⑧（图10）或皮拉内西⑨笔下空间那样随意穿插的可能性。“……居住区布置结合山区地形，尽可能提高层数……”[8]，当你下到地面的时候，工厂生产线那样的灵性消失了，街道依然努力地编织为规整的平面，受困于传统城市的平面逻辑，不期然形成的新建筑类型和它依据的自然地形并没有真正整合。于是，即使你有了今日重庆那样的城市奇观，这种立体形式的意义并未被立体地消化，不同于里约热内卢、洛桑等，它毫无疑问还是一座平原规划体制造就的中国城市。

就像面对石峁遗址时的困惑那样，我们并不确信是否理解脚下的基地——不甚清晰的起点，释放了重新解读山地空间的可能。笔者在早年的景观建筑学学习中受到的教诲是，你无须急着发现基准，因为基准可以是相对的，随处可见。以宾夕法尼亚西部的煤矿场地为例，教师教授的测绘方法是脱离了绝对零点的“三角形测量法”（triangulation）：需要你在场地上不断移动，身体本身是测量仪器的一部分，名义上的起点和终点受制于你的体力，需要测量的第三点其实是在名义上起点和终点连线的另外一侧，是你暂时不可触及的地方（图11）[9][10]。这并非导向空间意义的自我循环，而是编织出了不甚均一的、去中心化的地形网络。切分得越细致，这网络就能越精确地表达出地形的真实状况。测绘基础方法清晰又枯燥，可是精细化地形中突显出的，又不可思议的是散漫无边的特征，与人为指定的起点和终点无关。

3 行走地形：逐渐清晰的“中点”

2014年，为了举办有关当地历史的艺术展览，我初次“邂逅”了金沙江畔的风景。次年我们再次拜访基地时，攀枝花已经有了新的改变：尽管和过去一样缺乏耕地，但是这里的农业有了新的支撑点。攀枝花身处自然之中，农业资源却相对匮乏。这并不奇怪，因为耕种的效率取决于种植的条件，以及不同作物在各种经济模式下的出产和收成情况。自1998年7月二滩水电站第一台机组发电以来，空气不再像以前那样干燥，凭借无可比拟的热带、亚热带交界的气候条件，种植经济价值更高的作物成为了可能。荒山的表层被替换成了特色水果、优质烤烟、经济林木，甚至畜牧牲畜的乐园。在这里，没有畦亩无垠的农业景观，三维立体的特征依旧，尽管人工，却“自然”。

在中国西南部“托斯卡纳”的风景中点缀一座建筑的梦想，由此有了难得的转机。不像古老的梯田依旧有赖于手工耕作，山地上的这种新型农业经济自然归自然，却从一条市政道路开始，通电、通上下水，初步有了以“城市”方式营建的可能。开发的机会拜农业所赐，因为这里的定位是“农业经济”，人工和自然二者生硬却又天衣无缝地织补在一起，红线依然是建设用地和乡村农地的边界，但是蛮荒风景的周边几千米内，都看不见城市里才有的公共建筑物。在这种情况下，找到项目的“基准”至关重要——“基准”不仅仅是测绘的问题，更是指建筑的意义从山野里的何处开始。在有限的面积内，它又如何创造出一种人造的风景，好和真正的风景相连接？

建筑教育家彼得·罗推敲了“设计思维”生成的两种典型草图模式（图12）[11]：一种较少有意外之处，设计师依循约定俗成的惯例，或者不那么创新的建筑程序，勾勒出总体的结构之后，再陷入内部关系的具体沉思中，推敲关系所衍生要素的此消彼长。这种方式不易创新，但是事实上总有“意外”发生，多少改变了项目的前提。另一种则是由一个

⑦ 约占全国陆地面积 69%的建于山区的城市是狭义的“山地城市”。值得注意的是，在占全国陆地面积 12%的平原地区和占 19%的盆地地区，也有修建在“大于 5°以上的起伏不平的斜坡地上”的“山地城市”。

⑧ 里卡多·波菲设计的瓦尔登 7 号不同于寻常的公寓楼，它由一个或多个 28m^2 大小的基础模块以不同的组合呈现，是一座拥有 7 个相互连接的内部庭院的垂直迷宫。

⑨ 从罗马人的时代开始，西方建筑学已经使得三维体量在空间中几乎完全自由地发展，基于梁柱和楼板的营造体系，意味着大多数时候“所见即所得”，手段也即或者接近于结果。相形之下，东方木构体系中层和层的交接要复杂得多，建筑趋向于平面化，这不仅大大增加了上下交接的难度，也使得建筑的水平扩张受到较多限制。

不确定的起点到另外一个不大确认的终点，设计师在纸上反复涂抹，从一个细节到另一个，把设计带往不同的方向，但是为了效率起见，必要的关联不可缺少，即使前后不甚连续、设计的结果看起来大相径庭，工作的范围也总在控制之内。[11]这两种思维可以形象地转化为两位（类）伟大建筑师的作品，它们都具有某种把“景观”思想带入设计的示范意义：从范斯沃斯住宅到柏林新国家美术馆（图13），路德维希·密斯·范·德·罗的建筑逻辑貌似起伏不大，但是基地的状况极其不一，环境被建筑内化了⑩；而弗兰克·劳埃德·赖特的流水别墅和其他乡村住宅总是雄踞在自然的缝隙间，向四周伸展，建筑成为了风景的延伸。前者的空间从建筑学开始，而归结为变化多端的风景；后者强调自然逻辑，但最终突出的仍是人工构造的意义（图14）。

难说上述哪种方式更适于高山上的房子。讽刺的是，如此急需文脉但基地复杂的地形并不能直接启发我们做什么，我们的建筑传统里没有解释类似“自然”的先例。如同上面所述，远离市区的这块“城市”飞地，代表着人工侵入自然的状况，是在中国传统中不曾出现过的，就像没人可以很好地解释重庆对于中国城市规划历史的价值。玛丽·麦克劳德·贝休恩说，这种意义上凸显出来的互文性⑪，更多地是对同质化的、非人性的现代主义建筑的对抗，因为人们天生讨厌“孤立的街区、混凝土铺地、人行天桥”。无论政治倾向如何，过于和谐的自然会导致惰怠无所作为，枯燥简单的建筑却常常带来更公共、更有生气也因此更有效的城市。[12]你很难说哪一种互文性更好，但是就像罗所描述的设计方法那样，现在你必须在其中选择一种。

主要的问题不仅是变动着的项目起点，还有暂时无法明确的主体——到底是谁在设计，又会是谁（可能不止一个主体）来观赏？这不仅超出了一元化的创作模式，更非简单地制作建筑物体。如果把类似蒂沃利的别墅⑫中那样确定的几何体量落在一个三维有起伏的表面上，由于难以概括，如此依于不规则地形的设计往往声言自己是东方式的“园林”，但是其实它依旧是西方建筑学。其一，即使再模糊的过程也无法排斥清晰的工具的存在，在一个立体的多边形网格上，确立每一个网格和其他网格的关系，既是技术，也是当下不可逆转的人居方式——貌似直观，却受制于僵化的技术的逻辑。其二，即使景观体验高度主观，一旦成为一项世俗工程，也将会有相当确定的项目边界和使用方式。即使一时无从下手，至高的审美体验也要服从至下的项目周期的要求。也就是说，面对不确定的物理设置，至少需要落实一个起码的时间表，所以“开始”除了是一个坐标方位，也意味着一个时刻：项目落实的第一天，也就是我们找到了蓝图所需“零点”的那一天——更确切地说，这是没有偏见的“中点”。

建筑类型学内部的裂痕启发了“中点”的定义：一座建筑，哪怕是在城市里，必存在不均衡的两面。比如在英美城市都很常见的台地排屋⑬[1]，在建一座房子的过程中，凸显出来了本来并不显著的地面的差异性：一侧的地面注定往下沉，将位于第一层之下，需要清理浮土，让基座和周边的关系更清晰，这个操作需要堆积地形，但在建筑学意义上是负向的；另外一处，为了让楼板和地表齐平，挖掘的渣土填补了坑洼不平，对建筑而言是正向的累积（图15）。这两种手法在台地排屋中并峙，意向可以完全不同，一种是物体栖居在平整的表面，帮助填平沟槽，抹平基地的皱褶；另一种，当你转过街角，就会看到建筑其实是嵌入在地形中，成为已有大地体量的一部分。对最终进入房屋的人而言，屋前屋后不同的景色有时使人迷惑，在内部你会遭遇新的地形，比如上楼或者下到地下室，加剧了原有地形和城市语境的冲突。与摩天大楼不同，这些两三层排屋中的上上下下是极为重要的人和周边环境之间的具体关系，它不是消极适应，而是重新塑造了地形——最直接的是建筑的水平“地层”和它上下自然地层的对比。

这种人工的“地层”，就是我们急需的建筑形式和自然环境彼此协商的“中点”。在相对更长的时段上，我认识到人类对于建造环境的改造一直始于这种“中点”，而不是“零点”——“中点”，并没有像我们想象的那样绝对和当然（图16）。对比北京大学校园未名湖区改造前后的地貌会发现，地形完全是施工规律的产物，和台地排屋所经历的一样。[13]在《凌虚台记》中，苏轼清楚地意识到地形改造这一过程“虽非事之所以损益，而物理有不当然者”。我们看到的变化虽依据于自然，但更是从人的主观心志出发，是经意摆布的结果，“是必有异”。

尽管去过好几次攀枝花，在正式创作之前，我却只有一次机会看到那个基地。我对这个基地的处理与其说是传统的，基于体量和体量之间的搭配、形式和形式之间的嵌合，不如说源自某种困惑中的挣扎。行走于旷野之中唯一的一条道路让我想起的不是托斯卡纳的教堂，而是“瑞士之路”[14]，是一些带有无名感的景观作品：挡土墙、盘旋山路和山坡

⑩ 景观在建筑设计中的“内化”涉及两种不同机制的衔接：首先是人依存于环境的经验被嵌入了建筑的“身体”，自然环境被驯化为可以理解的人的感受；其次，“身体”被比喻成一种放大了的“景观”，其中既有纯生理性的经验，也有浓郁的空间的“象征”。

⑪ 20 世纪后半叶，建筑学理论经历了从营造物体到关注语境的转变，这也导致建筑学愈发成为一种“景观（的）建筑学”。尽管 20 世纪 60 年代的民权运动和其后的草根运动等思潮席卷全球，但因所处的文化语境不同，对“自然”的强调可能激起完全不同的反应——在美国可能是图像的消费主义，学院派的柯林·罗鼓吹的是保守的迪斯雷利和维多利亚时代的英国，同样强调互文性的意大利城市主义又是左翼的。

⑫ 位于蒂沃利的哈德良别墅和埃斯特别墅分别代表着罗马时期和文艺复兴时期两种不同的花园类型。但它们的共同点大过分歧——建筑不是嵌入地形，而是成为人造地形本身，建筑是场地意义的开始和主要意义所在。

⑬ 《地形学故事：景观与建筑研究》一书中提到，建筑可以被理解为人们对基地进行处理之后的“自然产物”，根据建筑与基地的关系又可分为花园路径、台地排屋、原始棚屋等类型。台地排屋的处理手法为“被挖出来的土不是被运走，而是被用于垫起一排房子前的街道。街道成了平台……”。

上的石堆。在这里，景观和建筑构造的区别不仅仅在于是否有个房子存在，更在于是谦卑地在各个方向上都追随着地形的律动，还是雄踞在道路所经由的山巅之上。前一种解释帮助成就了地形的意义，后一种正相反，只是缺乏计较的简单摆放。有时候，先入为主的体量主要是（某个角度的）视觉经营，对于景观的意义还赶不上台地排屋，它往往遮没或者压抑了地形存在的必要。

在山地行走时，你实际上可以找到无数个“中点”，因为永远会有之上的和之下的选择，即使翻过山去也是一样。基地的西南侧，大“几”字形的盘山公路上，我朝着机场方向走了很久，意识到了上文所说的那种建筑和景观之间感受模式的细微之别。现在，你是行走在山间，不是走向山外。在后一种情形之中，你就会潜行在溪谷之间，贴近地形的鞍部、集水线两侧，这样可以最快地上升或者下降，但是你并不能复制流水和大地的关系；在小心翼翼避免危险的同时，人和自然距离很远，甚难沟通。倒过来，假如漫步在山间，行走的意义也并不体现于山脊、分水线上，区别在于，现代的条件下，这样的道路首先得是汽车路，它缺乏台阶和磴道，总是沿着坡度较缓的山坡，依循曲率变化不大的等高线一路向前；它最关注的是前方，那才是行动的焦点——连接，同时忽略了连接点之间多变的关系，这和前述地形形成的宏观逻辑正好相反。在这种单调的运动中，更方便看到一侧被俯瞰的远景而不是前方；更有甚者，为了方便汽车拐弯，“前方”也在转向中不断地消失，而远景总是垂直于运动的方向，虽然永远波澜壮阔，却很难亲近，也无法和人所期待的尺度相衔接。风景同样美好，但不大可能产生出类似于流水别墅那样的“有机建筑”，随着公路生长起来的“农业开发区”已不是纯粹的人工或自然，它体现了人工和自然之间古怪的对峙。

在想象之中掘起或者放下泥土，我感受到了台地排屋建筑师的压力：一直都在试图弥合人工形式和自然语境的裂缝，但调停二者的冲突却有一定的难度。在设计学院就读的时候，我曾经做过一个实验性的项目，名为“使人厌倦的风景”，像一个在现实项目语境中难以想象的梦境：它的主要空间形式就是缠绕在一起连环展开的圆圈，向远方无穷无尽地延伸，但又是不休不止的单调重复；地形上仅有很浅的阴影，意味着没有显著的大体可以承受和支持这种持续变化的价值，更不用说，无数次无意义的转向让本来还算完整的场地也耗尽了自己的潜力。身在毫无遮蔽的中央，你更多地是被注视的对象的一部分，甚少是注视的主体；在如此阔大的尺度中，“小园香径独徘徊”的自我关注的风景也失去了意趣。

4 远离地形：一个开放的终点

2019年初，我再次造访初步建成的高山上的房子：在选取了一个高程上的“中点”之后，就像台地排屋那样，让建筑有了“+1”和“−1”的两个不同的面向，依据逐渐涌入的外界条件，建筑的大体并非刻意地塑造，而仿佛是依据两种面向自动成形（图17）。行动障碍者可通过西面缓坡和花园入口行至建筑主要层的大部分区域；但是更为精彩的路线起点是比“中点”低一层面的主要入口，在这里你可以沿着大台阶攀援而上，经历一段完整的山巅漫步旅程。

难以想象，哪怕是在建筑面积仅1 337.44m^{2}的展示区中，你也可以有九、十个出乎意料的转向。尽管建筑大体遵循着10m左右的柱网，这里并无寻常建筑的正交秩序，正方形或者长方形构图总是被一角、两角甚至三角的圆弧形所打破，整个展示区域中只有两个单元有封闭的门或者边界（图18）。在全年无霜点的此地，这样做首先显著地降低了建造的成本，部分空间是露天或者半露天的室内花园，无需保温措施或者安装复杂的建筑设备——项目并没有显著地改变地表的样貌，这些方圆混合形态更是花园所能带来的意义。建筑仅仅挑选了基地最为平坦的一部分，然后允许漫步者沿着不同坡度的道路在内部组织起一个新的连续地表。它们的逻辑和原有的地形一致，但是比原有的地形更富于戏剧性。

创作是一次建筑借助景观语词的互文性“写作”——建筑本身缺乏语境，思考的突破点反而是项目所在城市赖以成立的“自然”，源自一系列自相矛盾的表述：自然景观产生的机制不同于它被感知的路径，前者是宏观的，波及遥远，后者却系于传统的人居范式，常常呈现为静态的凝视和观望，这种貌似和谐的关系又常被变动的范式所打破。攀枝花靠近中国的战略后方和工业资源基地，但是距产品的“消费地”却极遥远，大山深处的位置利于隐蔽，现代城市的基础则是最起码的形象，长久发展和短期建设难免冲突，以至于它今日的发展也常常受困于这种矛盾。2014年，我在北京今日美术馆为来自此地的两位艺术家策划了名为《炎凉世界》的展览，最突出的叙事结构“炎—凉”正是在攀枝花打动我的那种二元对立。

二元世界的生生灭灭揭示出人既是一般空间书写的主体，又是这个过程的一部分。“聚落”这个名词不仅联系着建造的主语，还勾勒出最原初的人居所发生的条件。我们项目的发展和《地形学故事》中所讲述的顺序正好相反：人居并非真正融入自然，而是以一种比喻或者模拟的方式与之共生。地景本身的变化（比如花开花落）仅仅是这种共生的初级表现，这种共生意味着经验不断变更、适应，人在地景中的运动，从简单的行进，相应地发展到漫步感知，直至往复徜徉[2]。

我的行进从基地的南坡——现有道路的路边，也是项目的官方入口——开始。一个相对容易的起点，和攀枝花建市的初衷类似：在不同的标高上，挑选几处缓坡，形成台地，彼此间以楼梯连接。但是，在这个项目中行人有着更多的选择，其既可以无视建筑体块里的状况，走过一面高墙或是绕行一座孤耸的圆塔，也可以从建筑内部发现一条立体的岔路或在中段停留，意识到地面的、头顶的和空中的逻辑有所不同——大多数时候，屋顶没有跟随地面，室内空间亦自成一体。也就是说，这

里不存在任何表面化的“适配”，建筑基地、轮廓、空间三者没有确定的关系（图19）。这既非全然“外来”，也不大是“本地”，它是山地“地”建筑的方法，也就是仿造但并非复制基地的逻辑，重新组装为新的建筑 / 自然混合体，而不仅仅是依附于基地的山地“上”的建筑。

你可以选择从多个不同的平面，也就是项目的“中点”进入这座建筑。建筑，其实是以房子的形式出现的自然，它不再有当然的起点，真正说明了“自由平面”⑭这个词的含义——“自然”和“自由”听起来似乎紧密联系，其实不必定有关系。无墙的可随便穿越的一层空间是“自由”的，不只是因为无确定功能，“自由”基地的实质是“自然”，它是未完全覆盖的地表，是不间断的大地起伏，尚未为人类的野心俘获；建筑的基础不足以成为真正的地面层，没有基座，柱子和柱子只是坐落在圈梁上，不是巴塞罗那馆中足以再造地表的加泰罗尼亚拱⑮。这意味着，原有的地面从未消失，建筑如同一个并未回填的考古遗址；哪怕是附着在这个地表上的局部的混凝土地台，也仿佛只是一个挑台，并非真正的“地基”（图20）。

建造物和地表之间的不确定关系，也是空间和路之间的不确定关系，行进初步转化为漫步。一个人会沿着直线、（四分之一）圆弯角，或是二者交错形成的延长线，仿佛永无止境地走下去。像是“使人厌倦的风景”在现实世界中的展开。但是与此同时这种行动路线又定义了若干四方的房间，每个恰都缺失一角——我向委托人陈述道：“（建筑中）没有一个完全像盒子那样的房间……”，房间缺失的，正好是窗，或是门，同时让空间赖以呈现自身。在矛盾的交织中，你经历了各种各样的空间类型：方形缺圆角的序厅，圆形内嵌圆形、方形内嵌圆形的展厅……就像峻嶒山岩中的空穴那样，访者可以沿着各种方向的轨迹，看到同一组空间不同角度和次序的组合关系——最终，我们有了一个可以不断徜徉其中的迷宫（图21）。

自然之中并不大有这种“漂浮”在空中的花园。比如，头顶上有着遮盖、脚下却生长苔藓的岩穴，决计想象不到山巅的风景，坚实的大地和地下世界不容易彼此相爱，两种比喻难以兼容。但在这里，不同的地形碎片却可能是由同一条路径连接并堆栈在一起的：你是由不大能觉察出高程变化的缓坡慢慢走到二层，还是沿着陡峭的旋转梯拾阶而上？以上可能只是同一个空间的周边和中心的不同选择。真实地形中在不同地方发生的，是在这个空间中罗列、缩微，并最终编织在一起的（图22）。沿着那体量外延的舷桥，在建筑的北方你可以看到壮丽的山景，但那不是最使人印象深刻的“建筑景观”；走入建筑内部的一刹那，你会意外地发觉，自己也成了其他游客眼中的风景——以上才是一种“景观‘地’建筑”。

这个包含着众多中国园林隐喻的迷宫，算不算当代的中国“园林”，或者是否等效于它的某一种园林？就一部分空间呈现出来的类似的内向性而言，答案是肯定的（图23）。可是，我们无法忽视项目所处的完全不同的语境，不能忘记这个项目其实是在苏州以西2 500km处，我们也不能把抽象的类型语言等同于空间本身。几乎只有成本价格的混凝土建筑，不可能具有奢华的古典中国园林的品质——最多只是有那么一点点“园林”的联想。让建筑尚乏细节的不仅仅是项目预算，也是这个项目更大的语境，是经济的、文化的。你不会在类似于西部的荒野中，只因为有橄榄树和适合的气候，就有了一个托斯卡纳。

虽然吸引着参观者不停地走入其中，高山上的房子依然向四面开敞。你并不能改变基地四周所看到的东西，只是重新规范和诠释了人进入景观和重新感受景观的过程，其中浓缩了上文所提到的那些现象和问题。不要忘了，即使是项目的内部也依然是自然的一部分，是人类世界的外部，透过建筑的任意一部分你都可以看到真正的自然，它们不完全是远景，也叠加了一部分自我审视（图24）。你需要依序考虑这样的一些问题：建筑如何延续这个基地（乃至基地依附的地方传统）的逻辑，同时拓展这种逻辑？在有限的范围里，如何让这种逻辑放大、加强？这将是约翰·迪克森·亨特所揭示的英国园林中发生过的三重想象⑯：第一重是异国人、异乡人对于“某地”的想象，是置身于一种空间想象另外一种空间；第二重是仿制，其实就是伪造一个本不存在的空间，通过营造一种空间想象另外一种空间；第三重是跨文类的“翻译”，从文本、概念想象一个空间。在远离中原文化传统的地方，我们构想的这个项目超越了怀古的模式，不是基于回忆，而是基于脚下的空间，又时时把它带到更遥远的地方——空间落实了语词不能表达的东西，而本文则是用语词再造这个空间的意义。

现在，最终的问题来了——这样的空间里究竟应该放置什么？我们一度将其称作“展览馆”或者“美术馆”，但是它真的适用于这些用途吗？形式和意义匹配的问题超越了实用的层面，并不只是这个特殊的项目所独有。最后，你会发现我们所做的一切都只是提出了问题，但却无法期待什么答案。在真正的景观艺术形式里，设计、建造和维护的每一个侧面，都渗入永无休止的营造过程之中，无法“完满”。这就意味着，在景观建筑学里，人工建造的作品既然面对自然的前提，便没有真正的起点，也永不会完工，整修的活动永不会停止，作品持续地处在

⑭ “自由平面”是 1926 年由勒·柯布西耶和合作伙伴皮埃尔·让纳雷共同提出的现代主义建筑五大原则之一。从建筑结构角度来看，“自由平面”是指由于框架体系结构的使用，墙不再需要承担结构功能，因此平面空间的划分可以更加自由。这里的“自由平面”意在表示建筑与自然环境的有机和相对关系，它们不拘于一个强行指定的面向和起点。

⑮ “加泰罗尼亚拱”是一种低砖砌拱顶，可形成拱形天棚。密斯的巴塞罗那国际博览会德国馆的基础即采用了这种技术。

⑯ 2022 年 10 月 14 日，园林史学家亨特在北京大学人文社会科学研究院举办的会议上以此来解释英国艺术家和园林设计师对意大利园林建筑的借鉴和模仿。

“开放”的状态，渴望被活动和事件填充（图25）——这一点，足以让具有类似诉求的当代建筑学羡慕。

莱瑟巴罗提出的问题变得愈加迫切：一片陌生的地景里，到底是什么东西才令人记忆深刻？当你有所介入，成为自然的一部分，到底是什么东西，让人可以因你之名，持续回想和辨识出一片地景（图26），令你感到似曾相识？

注释

在本文中，为了突出原语境的特点，针对“landscape architecture”学科的翻译部分采用了“景观建筑学”（而非“景观设计学”）的表述，主要出于两个层面的含义：其一，美国等国家在建立该学科的过程中，一度比照了建筑学科（architecture）的特点，景观学科和建筑学科并立，“景观”是这类“特殊的建筑学科”独特的施用对象；其二，针对本文自身的语境，我们讨论的是一类和自然语境有着莫大干系的建筑项目，其中既引入了景观的元素，更借鉴了它的思考方法，因此这是一类用景观方法造就的建筑项目，项目本身也是建筑 / 景观的混合体。

致谢

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图 1. 2015 年笔者于青龙山项目现场勘察。
图 2. “高山上的房子”项目中主要的“上下文”：几个不同地点和人物之间产生的关系（图 2-1）；此处地形缺乏常规条件下特定的起始和面向的提示（图 2-2）。
图 3. 意大利托斯卡纳的山峦河谷风景
图 4. 攀枝花市（原名渡口市）建设之初，人工地形和自然条件的对比。
图 5. 石峁遗址附近的现代建设：大范围内的地形显示出遗址鲜明的“山城”特征，然而遗址的城东门址又体现出其后中国城市规划中常见的门、轴线、主干道、核心区等空间秩序。
图 6. 方形属于静态构图，而圆形则是你不断获得的空间认知。
图 7. 1967 年渡口市航拍照片。地图范围扩大时，显示出的“分形”和“地形”，为地质构造导致的褶皱、地表径流及气候变化共同塑造，和人工塑造的地形有着显著区别。
图 8. 将钢铁厂布置在山地台地地形上，可以短平快地适应生产需求，同时却未显著改变城市规划在若干平面上展开的逻辑。
图 9. 攀钢厂区弄弄坪全景（摄于 1972 年 6 月）。早年的厂区风貌是人力建设和机械作业的共同结果。
图 10. 位于西班牙巴塞罗那的瓦尔登 7 号集合住宅（摄于 2015 年）
图 11. 三角形测量法图解，该测量法由荷兰的维勒布罗德·斯涅尔于 1617 年首创（来源：文献[10]）。
图 12. 设计过程中的两种设计方式对比：一组基于过程中的互文性推导（图 12-1），另一组则依据先在的建筑“类型”（图 12-2）。
图 13. 密斯作品：福克斯河畔范斯沃斯住宅与柏林新国家美术馆
图 14 赖特作品：流水别墅与草原式住宅
图 15. 典型台地排屋的图解示意，建筑需要设置一个相对的“地面层”，与此同时，原有地形被相应地增削，以适应这种被人为改造后产生的新景观秩序。
图 16. 基于“中点”（“中间层”）错动建筑，弥合人工形式和自然语境的裂缝。
图 17. 基于地形起伏的轮廓线和高程进行场地分析
图 18. 正交体系与圆弧要素交织的形体生成逻辑
图 19. 行人选择不同入口、路线和感知建筑的方式，形成了建筑空间与景观语境相结合的不同构成方式。
图 20. 建筑空间的轴测简图（图 20-1）与分层轴测示意图（图 20-2）
图 21. 基于建筑未来展演功能逻辑的空间推演
图 22. 对于设计草图的推敲（图 22-1）与建筑空间模型的推敲（图 22-2）
图 23. 建筑概念设计阶段的人视点场景：建筑室内也是景观生成的一部分。
图 24. 透过建筑的任意一部分，看到真正的自然（摄于 2019 年）。
图 25. “山巅美术馆”功能场景拓展构思
图 26. 融入场地的“山巅美术馆”——“为‘无名山’增高 n 米”。