

王 昀

中国建筑工业出版社

当代建筑师系列



王 昀

WANG YUN

方体空间工作室 编著

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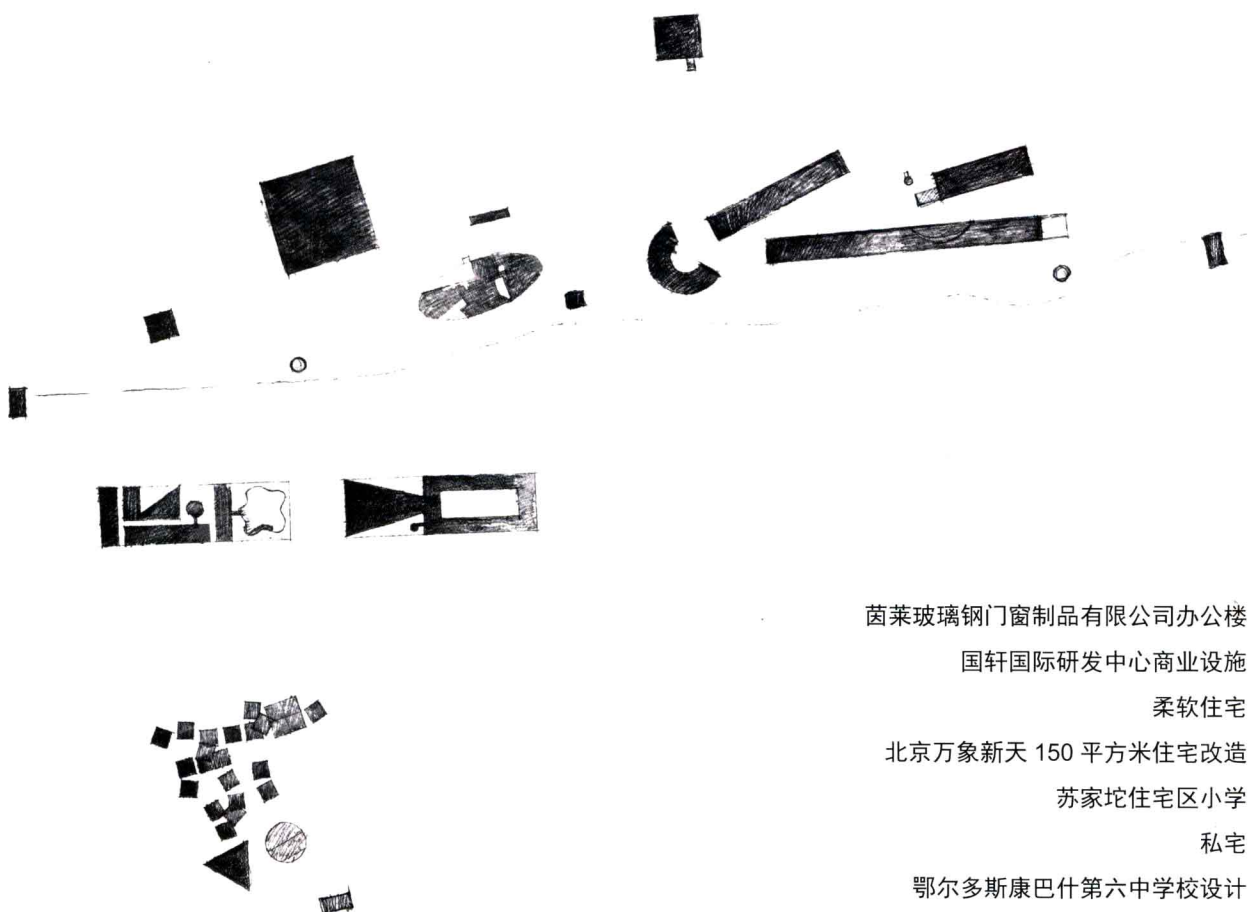
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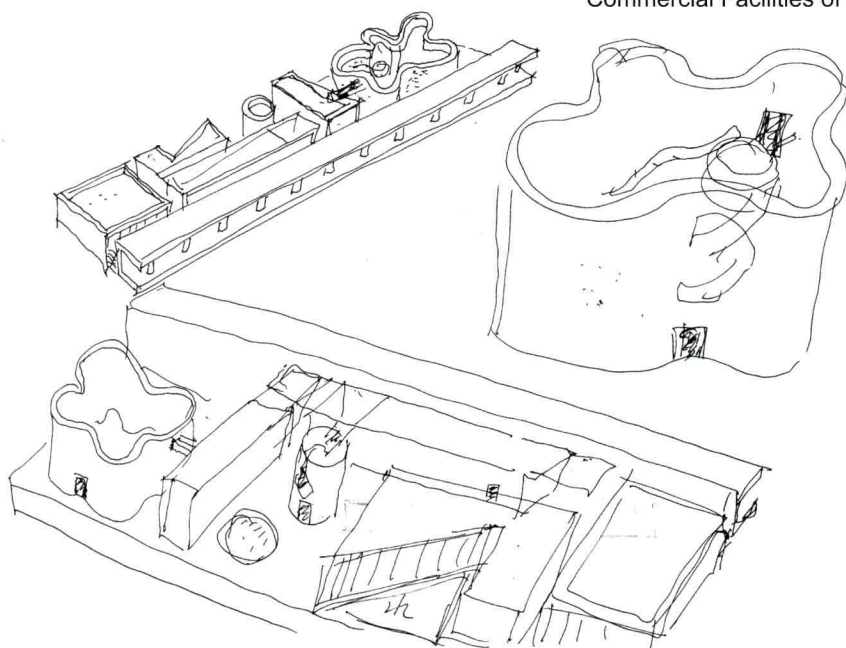
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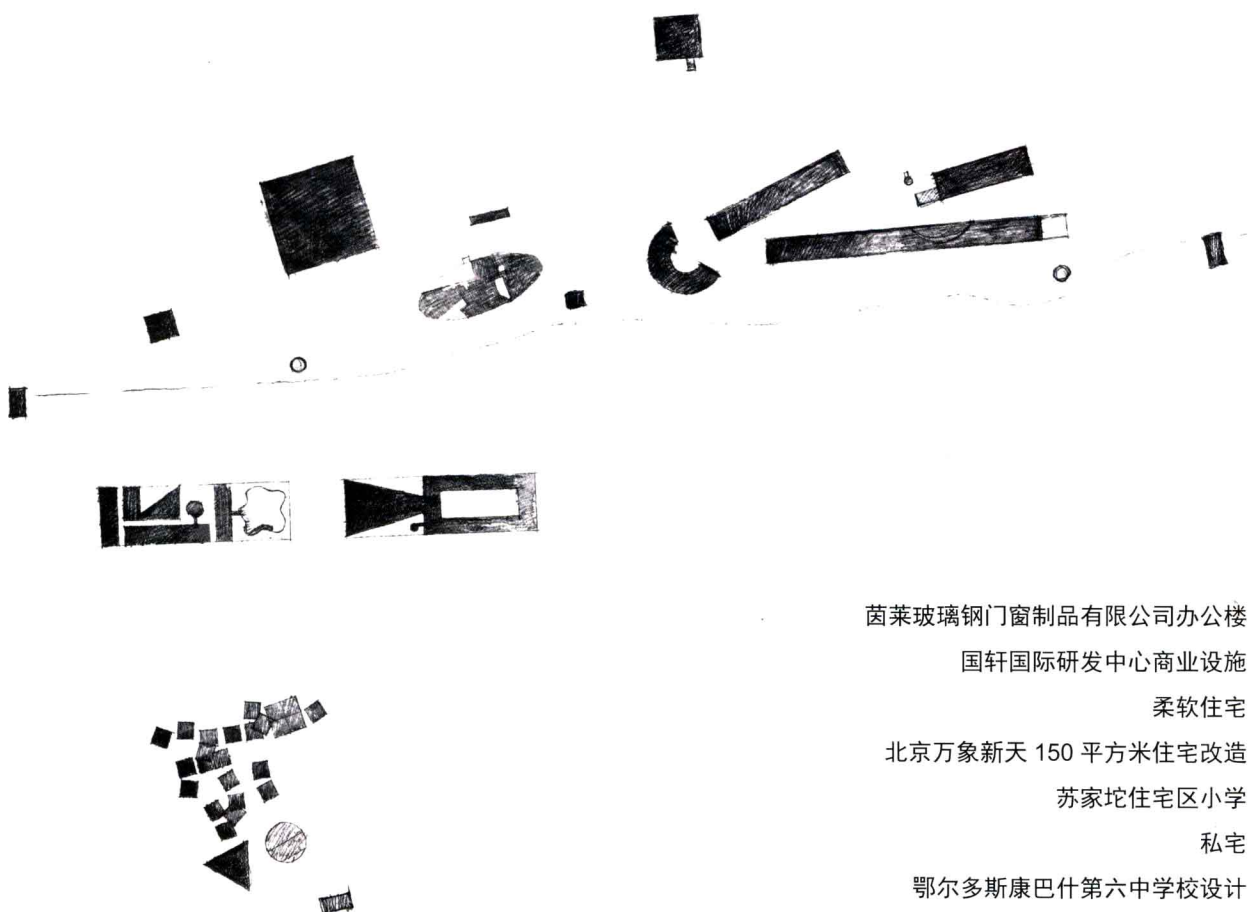
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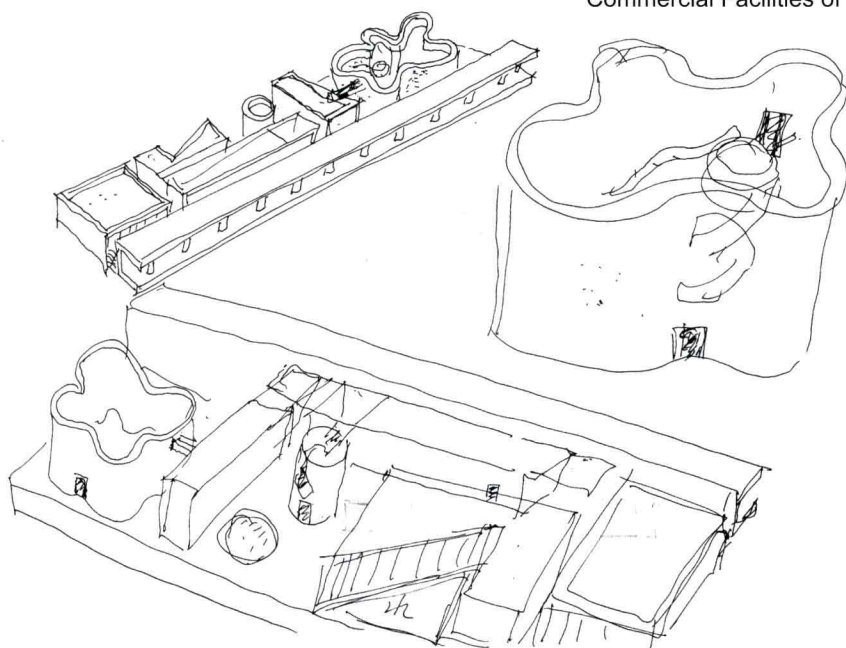
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王昀，1962年出生，1985年毕业于北京建筑工程学院，后留校任教，20世纪90年代初赴日本东京大学留学，1995年取得硕士学位，1999年获博士学位，他曾用10多年的时间持续地研究世界聚落，21世纪初回国，进入北京大学任教并成立工作室，开始其个人在国内的建筑实践工作，他的工作室取名为方体空间。

聚落研究，已是王昀于中国当代建筑界最明显的表征与品牌形象。他认为民居研究和聚落研究的对象都是一样的，民居在聚落之中，聚落是由民居所构成的整体的、集合状态的呈现。聚落研究，就是对聚在一块儿的民居的研究。民居研究是一个近景的研究，是把视点落在民居上所进行的细部观察，而聚落研究是一个远景的研究，是将视线放远，在整体上对民居的集合状态进行观察与把握。由于他曾有过民居研究和聚落研究的经历，因此，他的聚落研究总在远景与近景之间进行着。而这样的近景和远景之间所形成的摇摆与模糊的作用力，似乎也体现在王昀日后的设计思考与作品成形过程中。王昀关注原生聚落，也关注现代主义建筑思想，一个是传统的面向，一个是现代的面向。这两者在历史、文化、类型、语言方面都存在极大的差异性，而王昀似乎想要摇摆并游走穿越于传统与现代这两者之间，有时共同呈现，有时此多彼少，表面上看去似乎有一种时空上的错乱，有时分离又有时并置，他想把时间轴拉到一个极致的状态，想在现实的空间中创造一个传统与现代的并置关系，而这样的创造还一直持续着。

在王昀看来，这个时空上的错乱状态还与他从小到大的经历及到处探访建筑与聚落有关，他探访不同的环境，接触不同的地方，看不同的东西，而这些东西也杂乱地作用于他了。而王昀的设计作品，则是把所有错乱的集合体经过压缩后拿出的，是很多积累后的一个整合体，看似简单、实则复杂。这种从复杂到简单的转化，是由他自己内在的极致体验与沉淀后的投射与浓缩的结果。而这种投射与浓缩，实际上产生于他那反复于个人意识中的具象与抽象之间的流转。另外，他希望他的建筑是没有性格的，可以悠游于各个位置，又因为之前错乱的复杂作用，所以，他想把建筑简单化、单纯化，回归到一个白色的盒子。

北京庐师山庄会所与别墅，是王昀回归“白盒子”的代表性作品，在这个项目中可以看到现代主义的建筑思想，一种关注纯粹的空间，带有抽象与体验的设计倾向。他所强调的抽象空间，完全是站在20世纪现代主义起始点的思考，就是把人的理性思考回归原点并做到纯粹化的极致。人究竟可以思考到什么样的边缘，可以抽象到什么样的程度是他在作品中的追求和体现。因此他用抽象语言表述出作品内在深层的真实性，在几何体块中创造出内部游走与想象的空间体验过程，而这个空间体验，就是他经过意识的沉淀之后的一个投射结果。而当作品中的空间抽象与体验发挥到极致后，设计者的角色在空间中顿时抽离、消失、隐藏或退位，与观察者同时被并为第三人，成为一个观赏者，而空间本体则跃升为第一人，成为主角，展现着内部富有情

结般的路径，并经由多重视点、多重形式的转换而形成幻象，以唤起观赏者的某些记忆，空间完全在表达着建筑最本质的东西。

王昀的作品从北京庐师山庄会所与住宅，到北京百子湾中学，再到杭州西溪湿地创意会所——观察这几件代表性作品，从外部看带有一种一致性，即将建筑简单与单纯化，回归到“白盒子”，并将物体还原至某几个几何形体，由基本的几何语言构成总体的形态。而这些一致性统一后的结果实际上在追求着一种对纯粹空间的探索。同时王昀所设计的每件作品还在这种一致性的基础上维持着差异性、细微的变化、偏离的微差。如北京庐师山庄住宅与北京百子湾中学，王昀将视点均放在合院的抽象上，这两栋建筑内部都框出一个虚拟的天井，但是天井的尺度和空间的性格特征截然不同，而实际上这样的合院抽象化本身还切中和关注到中国性问题的命题。

体验与感受，是王昀设计的作品中特别强调的两点，而如何给人体验与感受是需要事先去设定好场景与意境的，且场景与意境都是夹杂在使用功能前提之下而进行的。场景与意境的设定就是空间的整体设计，而空间也是20世纪现代主义建筑思想最根本的起点，也是王昀作品中所要展现的重点。观察王昀设计的空间，感觉他总想要通过空间程序的编排去刺激人达到一种想象，除了唤起观赏者自己的某些记忆与想象外，他也企图给予观赏者一种设计者本身想要传达的想象。如杭州西溪湿地创意会所，王昀试图通过散落的几何体块，创造出想象的极大自由度，不管是想象过往的聚落，还是想象某个记忆中的场景，抑或是想象江南水乡的白墙黑瓦，都是通过体验丰富与抽象的环绕性空间，在走动的过程中，让视觉达到无限的延伸，使抽象氛围在水平与垂直之间延展，而在浓荫茂密的植被中的建筑，也开始在人的视野中消散与模糊。这样的做法，一方面建筑退隐到自然背后，给予场地基本的尊重，一方面建筑逐渐地冲破了既有形式，离散于现实与印象之间。

王昀设计中的空间抽象与体验，刺激人的想象，也与人的动作相关联，而动作的过程本身实际上与设计流线、设定路径有关。观察王昀设计的空间中常会使用坡道，而坡道本身实际上起到拉长行进路径的作用，他力图用它去创造一个过程，开始是缓慢的，想象也是不全的，然后从缓慢到停留，从一个场景转换与衔接到另一个场景，片刻停留去品味空间氛围，同时脑袋中的想象强度又会伴随这种移动而不断地扩大和展开，就会猜想或许是王昀想要传达的空间意识，体会到来回反复的主客体意识接触和交融。这样从缓慢到停留，再到缓慢，再到停留，来来回回地重复着，人常处于一种半想象与全想象的空间抽象的体验思绪之中。

纵观王昀的设计，空间抽象性从没消失过，体验、感受与想象依然存在着，但他还是努力探索和尝试空间上的变化与探索性的转型。而他所做的一切最终的追求是试图将空间抽象化发挥到极致，这一点是毋庸置疑的。如果从建筑学的视角来看，他的作为是正统的，从建筑史学的角度来看，王昀始终坚持在纯粹空间抽象性的探索脉络上，丝毫没有偏移过。

Portrait

By Huang Yuanzhao

Wang Yun, born in 1962, graduated from Beijing Institute of Architecture and Engineering and started teaching there in 1985. In the early 1990s, he went to Japan and gained his master's degree in 1995 and Ph.D. in 1999 from the University of Tokyo. He has spent 10 years in the research of global dwelling settlement. He came back to China at the beginning of the 21st century and teaches at Peking University. His design office is named Atelier Fronti.

Research on Settlement is Wang Yun's personal characterization in modern Chinese architectural field. He believes that research object of residence and settlement are the same. Residence is included in settlement, and settlement presents assembling state of residences. Settlement research focuses on observation of residence from an overall point of view, while residence research focuses on architectural details. Because of his research experience, Wang Yun keeps moving between distant view and close shot. This moving also appears in his works and design processes. Wang Yun concerns both native settlement and modern architecture, which are different greatly in history, culture, type and language aspects. It seems Wang Yun is walking between tradition and modernity. Sometimes, he wants to present both factors equally. Sometimes one is more than the other. Although seemingly spatial disorder, he wants to pull time axis to an ultimate state and form a juxtaposition of tradition and modernity at the same time. Such creation has always been continued during his work.

In Wang Yun's opinion, the disordered state of space and time related to his own experiences. He has been travelled many places, visited multiple buildings and settlements, and exposed to different environments. All these experiences have significant influences on him. His design works are expressions of all these experiences, and are integrated bodies through a lot of accumulations, seemingly simple but complex actually. This process from complex to simple is the result of precipitation of his inherent experiences. It is produced during his hover between concretization and abstraction. In addition, he hopes his buildings are without characters and capable of suit each location. Plus former complex influences, he wants to simplify architectures and return them to white boxes.

Lushi club and villas in Beijing present his returning from modernism architectural idea of to "white boxes". He focuses on pure space with abstract design tendencies. Standing at the starting point of 20th century modernism, Wang Yun stresses abstract space and pushes original rational thinking to a ultimate point. He tries to pursue and reflect the edge of people's abstracted thinking. Therefore, he expresses authenticity in abstracted way and creates experiences of walking and imaginations in geometry blocks. These experiences come from his consciousness precipitation. Taken abstraction and experience to extrem, designer

suddenly disappears or hides from the building, and becomes a viewer while space itself becomes the protagonist, showing internal complex paths and imaginations come from the conversion of multiple forms. As a result, memories of the viewers are evoked and space expressions become the most essential part of the architecture.

Wang Yun's representative works include Lushi club and villas in Beijing, Baiziwan primary and secondary schools in Beijing and Xixi Wetland creative clubs in Hangzhou. All these buildings are simple white boxes whose shapes are formed by basic geometric shapes. They share the character of simplicity. The consistency of the buildings is actually exploration for pure space. All of Wang Yun's buildings have slight differences on the basis of consistency. For example, Wang Yun focuses on the abstraction of courtyard in Lushi Villa and Baiziwan Middle School. Both of the two buildings has virtual patio inside. But scales and characters of space are totally different. In addition, this abstraction also related to the issue of the Chinese culture.

Wang Yun's works stress setting scene and create atmosphere on basis of function to bring visitor special experiences and feelings. Setting scene and creating atmosphere means overall design of space. Space are not only the start of modernism architecture design in 20th century but also Wang Yun's attention on architecture. Wang Yun tries to evoke visitors' imagination and memories as well as express his own imagination through arrangement of spaces. In Xixi Wetland creative clubs, Wang Yun hope to creat the limitless imagination through separated geometry blocks. It reminds you of traditional settlement, a scene in your memory or the atmosphere in South China. During the process of walking, your vision can reach the unlimited extension in the abstract atmosphere. Buildings in the shade of dense vegetation are dissipated and become vague. In this way, the buildings are not only incorporate in environment but also different from existing constructions.

Abstraction and experience of spaces in Wang Yun's design also associate with people's move decided by flowing organization and paths in the building. Ramp is used by Wang Yun to extend paths and create a process which maybe slow and lack of imagination at the beginning, but with transfer of scenes, people can enjoy the space as well as expand their imaginations. Such a process of slowing down and staying repeatedly provides people an abstract experiences with imaginations.

Space abstraction appears in all of Wang Yun's works; space experiences, feelings and imaginations never disappear. But he also makes efforts to explore space changes and transformations. There's no doubt that his ultimate goal is to maximize space abstraction. From the perspective of architecture, his work is orthodox; from the perspective of architectural history, he adheres to the context of exploring abstraction of pure space.



庐师山庄A+B住宅

The Lushi Hill A+B House

一、两块玻璃与两个投射

(一) 丢勒版画中的玻璃

在丢勒的版画中，有几幅知性色彩浓厚的版画。它们记录着文艺复兴时期画家绘画时的工作场景，描述着绘画工作的过程。版画中的一幅，描绘的是一位画家正在将空间中的对象绘制到平面画板中的情景。从图中我们可以看到画家正使用一根绳索，以确认点的方式，将一个三维物体转换到二维平面上。为寻找三维与二维之间的相互关系，以确定三维物体中的点在二维平面中的点的对应位置，绳索的本身成为三维物体与二维平面图像之间保持相互关系的维持物。这种维持物一方面表示着三维物体投射到二维平面过程中的投射轨迹，另一方面也指示着空间与平面之间相互点的对应位置。如果我们将绳索这个表示着三维空间物体向二维平面投射轨迹的维持物去掉，尽管我们看不到轨迹(绳索)本身的存在，但我们仍不难理解物体从三维空间向二维空间投射的结果和事实。一旦我们明了了这一点，并以如此的视点来看待三维空间与二维平面之间的相互关系时，便可以得到下面的结论：

亦即“二维平面中的像是三维空间中的物在二维平面上的投射”。

丢勒本人是一位画家的同时又是一位谙熟数学和几何学的学者，他笔下画家的工作内容，或许不仅仅只是单纯地记录从三维物体投射到二维平面中的点与线的位置，而更或许是在探讨着如何将三维空间中的物体投射和转化到二维平面中的画法几何。

同样引起我极大兴趣的是在这几幅版画中均存在着一个共同的装置，就是在每个画面中都具有的一个如窗子般的框。而这个“框”的本身，实际上就是二维平面的界面和限定范围，也是三维空间中的切片和断面。版画中的“框”实际上又是探索如何将三维的立体世界投射到二维平面世界过程中的富有意味的投射装置和研讨器。我们姑且称之为“空间投射器”。这个投射器的表现形式是透明的玻璃窗。当观者将视点固定在玻璃上，透过玻璃看到其背后的三维物体时，三维物体本身就成为玻璃上的像，并且这个像本身就是二维平面的存在。当将投射在玻璃上的三维的像加以记录，并准确地将其加以描绘时，所截取的像的本身就是三维物体在二维平面上的投射结果，并且二维平面上的像与三维空间中的物之间还同时保持着一种相互对应的关系。

如此透过一个透明的二维界面去看三维世界的方法和视点，就是我们所说的“透视”。很显然所谓“透视”就是“透过去视”，即透过一个透明的二维界面去视，去视一个三维世界投射在二维透明玻璃上的像。而将投射在二维透明界面上的像加以记录以及对另一个三维世界投射的轨迹进行记录的几何学手段就是我们常见的画法几何。

由于对这种投射关系的研究以及相应表现手段的成熟，反过来出现了一

1. Two glasses and two projections

(A) Glasses in Dürer's painting

Some of Dürer's engravings recorded painting scene of Renaissance painters. One painting of these depicts that an artist is drawing objects on drawing board with a rope. The rope is used as a link between three-dimensional objects and two-dimensional surface. On one hand, this link stands for projection trace of the translation; on the other hand, it presents position relations of points in space and on the plane. Even without rope people can easily understand the results and facts of the projection. From this point, we can get the following conclusions:

"Objects in two-dimensional plane are the projection of objects in three-dimensional space".

Dürer himself was a painter as well as a scholar of mathematics and geometry. His paintings not only record points and lines projected objects from three-dimensional space to two-dimensional plane, but also explore descriptive geometry to realize this projection.

A device appears in all these engravings arouses my great interests. It's a window-like frame in the interface of plane and plays a role of restricting the range of the two-dimensional space, meanwhile it is the cross-section of the three-dimensional space. The "frame" is actually the device in exploring the projection from three-dimensional world to two-dimensional world. We can call it "space projector" (with the form of transparent glass window). Observing objects through the projector, three-dimensional objects become two-dimensional existence. When we try to portray these existences accurately, we get projected results of the three-dimensional objects in the space. Mutual corresponding relationship exists between two-dimensional existence and three-dimensional object.

This method above is so called "perspective", which means to observe objects through a transparent two-dimensional interface, and to observe projections of a three-dimensional world. The whole process of recording the existence and projection is called descriptive geometry.

Further projection research created a new way to present space and three-dimensional projection. As a result, artists after Renaissance painted "window frame" to express three-dimensional space. In their eyes it means perspective frames. Objects seen through the frame is the projection of three-dimensional object. But regards the results of two-dimensional projection as the basis of

一个新的空间表现方式，就是利用二维平面去表现三维空间，即用二维平面表现三维空间的投射的结果。也正是因为如此，观察在“窗”上所投射世界的观察角度和表现方法后来一直成为文艺复兴之后在平面中表现三维空间和窗景的写实绘画的基本根基。即：画框=透视的窗框。透过画框观察到的对象也就是现实三维空间的对象在画框中投射的事实。但是这种仅从二维平面的投射结果就去判断三维世界全部的观念和思想，实际上对于空间维度的认识和扩张判断都有着巨大的局限性和危害性。

（二）杜桑的玻璃

上述这种空间的认识和表现在20世纪初由于科学的进步而得到重新审视。与这种空间问题思考相呼应的是画家杜桑所做的一块以“新娘”为命题的大玻璃，这是一块与丢勒的玻璃窗极为相似的大玻璃窗，其制作的目的是试图寻找一种新的透视法，即探索寻找出一个由四维世界向三维空间投射的透视法则。

既然二维平面中的像是三维空间中的物在二维平面上的投射，那么我们这个三维世界的存在，不正是一个四维世界的空间投射的结果的存在吗？按照这样的理解，杜桑将投射到二维玻璃上的三维世界不再视为二维平面的存在，而是三维本身的存在。因此玻璃窗上(杜桑的所谓的三维空间)显现着怎样的投射规律，如何描述和表现四维世界的画法几何，便是杜桑所关心和想要探讨的内容，也是杜桑制作大玻璃的目的所在。尽管大玻璃这项研究仅进行了一半，未能最终完成，但是这种关心四维世界如何投射的问题本身却有着深刻的价值和意义。因为自文艺复兴以来，人们的视点都仅仅只是关注平面中的三维物体，仅仅只关注三维空间中的对象本身，忘记了维度投射的因果顺序，忘记了透视的真正含义。面对这些问题，重新关注空间投射器，重新对其研究，重新对其理解，重新试图用这种透视的装置追溯探讨四维世界的投射关系本身便是杜桑所做的以“新娘”为题的大玻璃窗的真正意义所在。从这个层次上来看，我们可以说：大玻璃是杜桑进行研究四维投射作图法和三维画法几何的投射装置。

（三）两种投射

上面我们所说的丢勒的投射和杜桑的投射，实际在本质上还存在着明显的区别。首先：丢勒是将三维世界在二维平面的投射作为研究对象和研究目的。而杜桑所关注的是四维在三维中的投射问题，并力图在三维世界中找到四维的投射法则。尽管两块玻璃所形成的“框”与“窗”是相似的，但在观念和本质上却是根本不同的。这两种不同的投射，一种是思考外在对象本身在玻璃上的投射，一种是内在观念的意识本身在玻璃上的投射，二者实际上是反映了自文艺复兴以来的空间观念与现代空间观念在本质上的不同。

understanding three-dimensional worlds limit our understanding and expanding on spatial dimensions.

(B) Toussaint's glasses

With progress of science, foregoing understanding and expression of space were re-examined in the 20th century. Painter Dusan made a large glass named "bride" (similar to Dürer's window) to create a new way of perspective and explore a projection law which can project four-dimensional world to three-dimensional one.

Just like three-dimensional objects can be projected onto two-dimensional plane, the three-dimensional world is the result of the rejection of four-dimensional world! In this way, images projected on Toussaint's glasses are the three-dimensional world itself. Toussaint focused on projection laws and descriptive geometry for four-dimensional world. Although his study on glass half failed, but it still is full of profound value and meaning. Since the Renaissance, all the people stressed on three-dimensional objects in the plane and the object itself, disregarded the order of projection and the true meaning of perspective. Toussaint's glasses "bride" focused on research and understanding of space projector, reattempting to discuss relationship of four-dimensional projection itself. This is the real significance of the glasses. From this aspect, Toussaint's glasses are projector for four-dimensional projection mapping and three-dimensional descriptive geometry.

(C) Two kinds of projections

Projections of Dürer's and Toussaint's are different in nature although they are similar in form of glass and frame. Dürer wanted to study projection from three-dimensional world to two-dimensional world, which is external object projection on the glass, while Toussaint focused on four-dimensional projection in three dimensions, and tried to find the projection law, which is an inner awareness projection on the glass. Differences between the two projections reflect the differences of space concept between times since Renaissance to modern times.

2. Experience space projection and Awareness space projection

Projections mentioned above remind me two projections I have experienced in different levels and significances. One is the settlements

二、经验空间的投射与意识空间的投射

上述丢勒和杜桑的两种不同层次与意义上的投射，令我联想到我所经历的两种类似的不同层次和意义上的投射。一种是我所进行的聚落研究的过程中，为记录聚落空间所进行的聚落平面图测绘时所感觉到的投射，另外一种是我在进行设计时，我头脑中的意识空间在现实三维空间中的投射。

（一）我测绘的聚落平面图

在过去的十几年中，我曾经对于聚落进行研究，而其中对于聚落进行测绘是必需的工作。在聚落的调查过程中，我曾对处于三维状态的聚落进行过总体空间关系的测绘和记录。这个测绘和记录工作是通过对于聚落平面关系的测量来完成的。在记录过程中，原则上我是将聚落中的住宅、树木、家畜房屋等眼睛所能看到的所有东西都记录在一张平面的纸上。其结果在平面图上所记录的图纸内容本身就成为聚落空间关系在二维平面上的投射。事实上，在从聚落空间向聚落总平面图投射和转换的过程中，实际上我只记录了三个相关的“量”的关系。一是聚落中存在的住宅的方向（各住宅的朝向），二是住宅的大小，三是住宅之间的距离。由于对这三个数学量关系的记录，从而完成了聚落总体关系图的绘制。这个总体平面图并不是丢勒透视学意义上的平面图，而是一个空间构成关系的平面图。它不是一个有关三维场景的记录，而是一个空间构成关系的记录。而这个空间关系就是三维空间在二维平面上的投射。由此，二维的聚落平面图与三维的聚落空间之间也就存在着投射和像之间的对应关系。值得注意的是，总体聚落平面图中所记录的，实际上是一个数字和量的关系，也正因为如此，聚落的总体平面图又可以用如下的公式来进行表示：

即：聚落的总体平面图=住宅的面积+住宅的方向+住宅间的距离

另外一点值得注意的是：在我一个个地将聚落的空间投射到聚落总平面图上的过程中，实际上我的身体也参与了一遍聚落整体的建造过程，具体来说就是我所进行的聚落总体平面图的测绘工作的过程，实际上就是聚落建造者建造聚落过程的镜像存在。也就是说，聚落的建造者在建造聚落时同样地经历了一个

space mapping projection in my research on settlements, the other is projection from my sense space to real three-dimensional space during my design process.

(A) The map of the settlement plan

In the past ten years, I conducted research of the settlement. In the process, mapping is a necessary work. I mapped and record spatial relationship of three-dimensional settlement by measuring the plan. In principle, I record residential settlements, trees, livestock houses and everything can be seen on paper. The results actually are projections of settlement spatial relationships in two-dimensional plane. Actually, I record three related factors of "quantity": the direction of the settlements, the size of the houses and the distance between houses. It isn't perspective of Dürer's projection, but a plan reflects spatial relationship. It is not a record of three-dimensional scene, but a record of space constitution which is projection of three-dimensional space to the plan. In this way, relationship between two-dimensional plan and three-dimensional settlement space are set up, just like relationship between projection and its image. It is noteworthy that the record actually is relations of digits and quantities. Thus the plan of the settlement could be expressed by the formula as follows:

the overall plan of the settlement = residential area + residential direction+distance between residences

Another point worth noting is that my body involved in the overall construction process of the settlement during the process of mapping which is the image of construction process. Construction activities is a process of converting residential direction, the distance between the residential and the residential area into three-dimensional space. We can say that the drawing of the total settlement plan equal to the design process of settlement in this level.

将住宅方向、住宅间距离以及住宅面积投射和转换到三维空间中的过程。在这个层次上我们可以说：聚落总平面图的绘制过程，等同于聚落的设计过程。因此，聚落建造者的意识空间也可以通过以下三个量的关系来加以表现和诠释。

即：意识空间图=村落总平面图=住宅的面积+住宅的方向+住宅间的距离

在这里必须指出的是：对于聚落的调查过程，实际上又是聚落空间投射和转化为我的意识空间的过程。由于投射到我意识中的空间同建造聚落的人们数量化状态的意识空间之间形成了一个相互的镜像关系，因此在我的聚落调查过程中，从聚落的实际空间转化到头脑中的数量空间的过程，也正是他们从数量状态的空间转换到实际空间中的过程。因为对于聚落的建造者们来说，意识空间的本身是一个数量状态的存在，而聚落空间的本身是这种数量空间状态的客观投射的结果。因此在我调查聚落时，从聚落空间组成中所感受到的意识空间实际上是聚落建造者们的集体意识的集合，并且这个感受过程同时也是一个从聚落的空间组成感觉聚落居住者的意识空间的过程。

（二）意识空间的投射

上面我们所说的聚落的空间组成实际上是聚落的建造者意识空间的投射结果的事实，说明了以下几个问题：

如果说：聚落空间是以三维空间的形态存在的是事实（这个事实是不可否认的），并且聚落空间又是数量化的意识空间投射的结果，那么人的意识空间本身就一定是四维空间的存在。

如果说：建筑师所设计的建筑空间是一个三维空间的存在，那么它一定也应该是建筑师头脑中的意识空间在三维空间中投射的结果和事实。

如果说：建筑师所设计的建筑空间是建筑师头脑中的意识空间的投射的结果，那么建筑师头脑中的意识空间一定是一个四维状态的存在。

如果说：聚落的建造者头脑中的意识空间是一个数量状态的存在，那么建筑师头脑中的意识空间也应该是一个数量状态的存在。

如果说：意识空间是一个数量状态空间的存在，那么四维空间向三维空间投射时的画法几何和投射媒介只能是数与数学、几何学的存在。因此在设计的

Therefore, awareness space can be understood by the following three factors:
awareness space map = the overall plan of the settlement = residential area + residential direction + distance between residences

It must be pointed out here: the investigation process of the settlement, in fact, is the process of projection and transformation of the settlement space to my awareness space. Space projected to my awareness is the image of awareness space of builders' state, so the translation from settlement space to awareness space in my mind is equal to the converse translation. Awareness space is a digital existence for builders and settlement is the result of projection from the digital space. I felt settlement space is collective consciousness of builders and my survey experience is also a process forming dwellers' awareness space from settlement space.

(B) Projection of awareness space

All the things we discussed are actually results of awareness space projection of builders, this fact tell us:

If we believe settlement space exists in the form of three-dimensional space (this fact is undeniable) and it is a projection of awareness space, then people's awareness space must be four-dimensional space.

If we believe space is a three-dimensional existence, then it must be results of projection from awareness space to three-dimensional space;

If we believe space is the results of awareness projection from architects then the awareness space of architects must in a four-dimensional state.

If we believe awareness space of builders is in a digital state, then awareness space of architects is in the same state.

If we believe awareness space is a existence of a digital state then the descriptive geometry and projection media for projection from four-dimensional space to three-dimensional space can only be a mathematical geometry

过程中，我的意识空间通过我的设计投射为三维的建筑空间。在此有两点应该指出：

(1) 我的头脑中的四维状态的意识空间源于我对空间的经验。

(2) 我的设计过程不过是通过几何学的手段将我头脑中呈数量状态的意识空间投射和转化到三维的空间。尽管我头脑中的意识空间用眼睛看不到，这似乎如同二维平面中的生物是不可能看到三维空间物体的存在是一样的。但我的意识空间一旦经由投射成为显现物，转换为三维的空间对象，我的头脑中的意识空间就会由于投射而成为客体得以表现。

我以为：设计者对于空间的设计，实际上是设计者意识空间的流出和显现，是意识空间的投射和意识空间在维度上的转化，是意识空间在三维世界投射结果的体现。而设计师所设计的空间本身正是设计师本人的意识空间的空间投射器。如果我们能够从空间维度的转换和投射的角度来认识和理解建筑的话，那么我们就可以说：

建筑是四维状态的意识空间在三维世界中的投射！

(三) 建筑是意识空间的展现

上述“建筑是四维状态的意识空间在三维世界中的投射”的理解实际上是我们摒弃“视网膜”的建筑走向意识的建筑的开始。在这里需要强调的是：所谓的我们的眼睛“看”和“看到”是两个完全不同的概念。在我看来眼睛就像是一个屏幕，它具有两个面，一个是现实投射的面，另一个是意识投射的面。当我们“看”时，总是希望视网膜不断地受到刺激，看到物，而这个时候你不会产生梦，你的意识当中的“风景”也不会展现。因为当现实的东西不断地被投射到视网膜上，也往往是外界的刺激集中灌输进大脑的时候，所以我们才说睁眼看世界。但当我们闭上眼睛睡觉的时候，我们会做梦，因为在我的理解中这是大脑里的东西投射到视网膜上的缘故。而这个时候，你就会看到大脑里的那个世界。因此，如果从这个意义上理解，我倒是希望这种意识中的风景能够得到展示，因为这也是一种生活状态。从“意识的风景到现实的风景”反过来通过“现实的风景唤起意识中的风景”：或许能够成为我们对于建筑的另外一种理解以及思考的状态和出发点。

existence. Therefore awareness space can be projected to three-dimensional space in my design. I should point out:

1) Awareness space of four-dimensional state comes from my experience.

2) The design process is the way I project awareness space to a three-dimensional space. Just like objects in two-dimensional plan can't see objects in three-dimensional world, we can't see awareness space in mind. But projecting to three-dimensional world, awareness space can be converted to objects.

I believe the design process is actually a translation from awareness space to three-dimensional space. Space designed by architects is projector of their awareness space. Understanding architecture from the aspect of spatial conversion we can say:

Architecture is the projection of four-dimensional state space in three-dimensional world!

(C) Buildings show awareness space,

If we believe "Architecture is the projection of four-dimensional state space in three-dimensional world", we just abdicate visual buildings and begin to search awareness ones. I want to emphasize "to watch" is different from "seen". In my opinion, eyes like a screen have two faces: one is for realistic projection; another is for awareness projection. When watching something, we get objects visually but we can't get dream and "scene" in our consciousness. It's because when objects are projected onto our retina, external stimuli are getting into the brain. But when close our eyes we have dreams, because objects in our brain are projected onto the retina in my opinion and you can see the world in your brain. I'd hope that this state of awareness can be displayed because it's also a state of life. Arousing realistic scenery through consciousness scenery maybe a new state and the starting point for our understanding of architecture.