

普通高等院校设计类专业精品规划教材

# 立体构成与造型基础

——立体元素与表达

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# 前言

毋庸讳言，视觉自设计诞生之时起就是其重要组成部分。在学校设计基础教学活动中，特别是在社会经济高速发展，消费能力增强，对设计的要求迅速提高的背景下，我们在不断探索用多种方式提高学生在视觉形式方面的创造力。这些不同的方式、方法都有其各自的优点和不足，并互为补充。我国的设计教学仍处在很不成熟的阶段，承担着学习国外先进经验和根据国情自主创新的双重任务，而且这将是长期的过程。本书的出版，其主旨也在于通过我们的课程实践，为大家提供一个未必成熟但可以借鉴的案例。

本书的课题内容来自罗伊娜·里德·科斯塔罗的视觉构成教学体系，我们将其部分课题内容引入课程，是对其教学理论的实践。并将实践过程中的学生作品、制作过程、体会以及点评加以总结集合而成。

通过课程实践可对罗伊娜的教学理论方法有更深的理解和体会，其中包含非常丰富的关于视觉构成的认识：首先，对抽象的视觉形式规律的概括提炼，并融入形象的课题练习中，通过手、眼、脑的协同来体会这些形式规律。其次，使课题由简到难，由单纯到复杂，使学生逐步习惯于用理性的方式分析形态，不仅要“知其然”还要“知其所以然”。这一点对于设计师而言是非常重要的。在教学中，经常会遇到学生对一个形式的评价仅停留在“挺好看的”、“不错”、“很美”、“很酷”……能感觉到对象的美，而不知道为什么。罗伊娜这种理性的思维方式使得抽象的形式成为可以言说的对象，进而成为可以进行描述与根据意图加以控制的对象。最后，其理论强调了理性思维的重要性，但并不排斥感性思维的部分，是建立在普遍规律基础上的个性化创造，一种能被他人所共同感知的个性化思维构成。

在我们学习体会罗伊娜的思想和她所总结规律的同时，仍然有属于自己的新发现和体会，一并汇集到了这本书中。

无论哪种观点和训练方式都不能解决所有问题，我们不能以偏概全，执其一而排斥其它，唯此才能得到全面的设计基础教育体验。

希望我们的实践能给同行者带来一些启发和借鉴，共同进步。

编者  
2008. 8. 7

# Preface

There is no doubt than the vision is the important constituent when the design was born. The school design foundation teaching activity has been exploring many kinds of ways to enhance the student's creativity continuously in the visual form aspect, specially under the background of the social economy high speed development, expense ability strengthens, the design request enhancing rapidly. These different ways and means all have its respective merit and the insufficiency, and is mutually the supplement. Our country's design teaching is still at its beginning and face with twofold tasks that is studying overseas advanced experience and innovating independently basing on national condition, and it will be a long-term process. The primary intention of the publication of the book lies in through ours curriculum practice to provides one case for everybody that be to profit but not necessarily.

This book's topic content comes from Rowena Kostellow's visual constitution teaching system, its part of topic content be introduced to curriculum, is to practice its teaching theory. This book is composed of student's work, the manufacture process, the experience, the review and summarizes in the practices.

Through the practiced curriculum, We had a deeper understanding and the experience with Rowena's teaching theory and method. Firstly, To summarize and refine the abstract visual form and rule, to integrate the image in the topic practice, and to realizes these form and rule through the hand, the eye, and the brain's coordination. Secondly, to cause the topic from simple to difficult, from purely to complex, to cause the student to be accustomed to gradually uses the rational way to analyse shape, not only wants "to know its however" also wants "to know its reason why". This point is extremely important to the designer. In the teaching, it is often heard that the student frequently only to pause to a form appraisal in "very well looks" "good" "very beautiful" "very cruel"... ... They can feel the object's aesthetic feeling, but doesn't know the reason. The Rowena's rational thinking mode causes the object which the abstract form becomes may speak, then becomes may carry on the description with the object which controls according to the intention. Thirdly, Although its theory emphasized the importance of rational thought, simultaneously does not repel the part of perceptual thought. This is the personalized creation establishing in the universal law foundation, one kind personalized thought constitution can sensed commonly by other people.

When studying Rowena's the elegant thought and her summarizing rule, we still have some recent discovery and the experience that belonged to own, and collected in this book.

On the other hand, regardless of which viewpoint and the training way all can't solve all problems, we cannot draw conclusions from a part, hold its one repel other, only so can be under the comprehensive design elementary education.

Hoped our practice can give the colleague to bring some inspirations and the model, to progresses together.

Author  
2008.8.7

环境

看

见

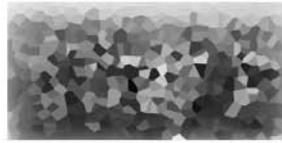
生物能量编码

Environment

Look

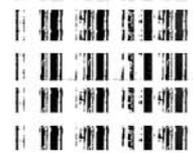
See

Biology energy coding



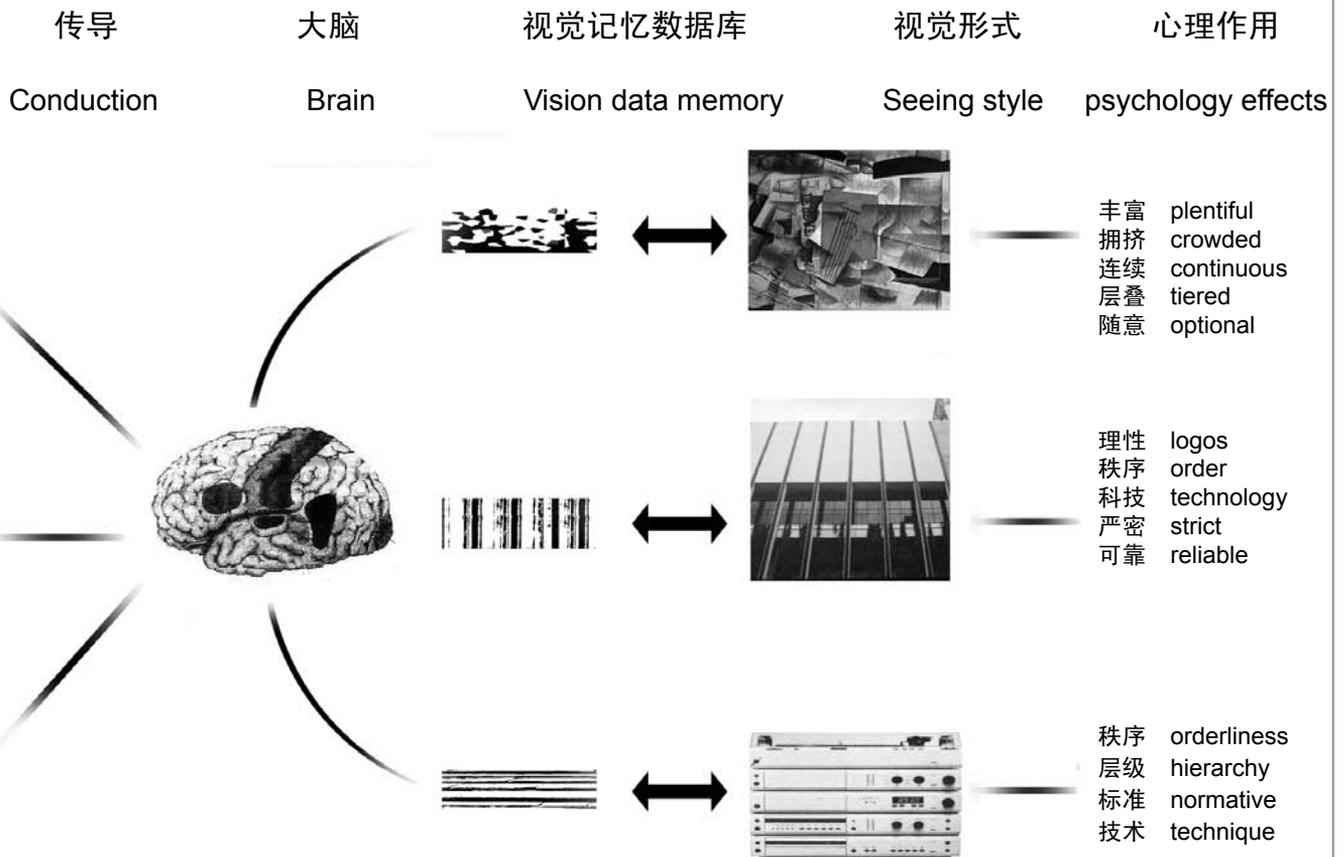
古典绘画

西方古典绘画、雕塑艺术以客观现实世界为对象追求真实的美。通过再现人、物、事件来传达情感、思想和追求。  
 Western classical drawing and sculpture art take objective reality world as object pursue real aesthetic feeling.  
 Through reappearing the human, the thing, the event transmits the emotion, the thought and the pursue.



抽象艺术

- 1、客观视觉对象被人的眼睛感知到最终在人的心理上产生反应，这是一个非常复杂的过程。了解这个过程的作用原理和规律，特别是“见”与“心理作用”两个互逆的过程，对于我们学习设计是必要的。
- 2、抽象化的视觉表达是我们所要探讨的主要内容，是最普遍和最基本的视知觉规律。
- 3、作为视觉语言的初学者，我们犹如婴儿，必须从头开始并不断练习。



现代抽象艺术则通过抽象的形式直接作用于人的视觉和心理，产生更加强烈的刺激，并引起人的心理变化，使抽象的形式摆脱客观现实对象的束缚，成为独立的审美对象。现代产品、建筑等成为抽象艺术语言语用的载体，在这一点上，抽象艺术成为设计美学的引领者。

Through the abstract form, the modern abstract art acts directly to human's vision and the psychology, has a more intense stimulation, and causes human's psychological change. It is abstract gets rid of the fetter of the reality object, becomes the independent esthetic object. The modern product, the building and so on become the carrier which the abstract art language uses, on this, the abstract art becomes the eagerly anticipator of design esthetics.



现代设计

特定的样式以其视觉特性作用于人的是知觉，引起人的共鸣，是对设计的主要诉求之一。

The specific style by its visual characteristic function and the human is a consciousness, causes human's sympathetic chord, is to one of design main demands.

1. The objective visual object to is finally produced by human's eye sensation in human's psychology response, is an extremely complex process. It is necessary for us studying the design to understand the mechanism and the rule of this process, especially the two reciprocal processes of "sees" and "the psychological process".
2. The abstraction visual expression is the primary coverage which we discuss, is the most universal and most basic visual consciousness rule.
3. As the beginner of visual language, we just like the baby and must start and practise unceasing from the beginning.



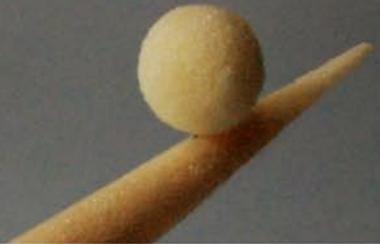
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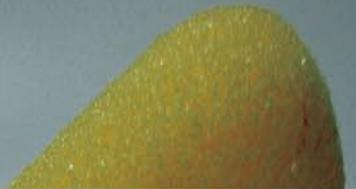
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## 课题一 立方体

### 课题提示

1. 此课题作为最基础的课题，主要探讨了三（或多）个立方体（或其他物体）组织在一起形成一个整体时，各要素之间的基本关系，以及创造动人视觉形式的基本规律。
2. 通过此课题导入比例、轴线、连接构造、平衡、动势等基本概念。
3. 课题排除了色彩、材料、曲面、轴向的变化等造型因素，使课题尽量变得单纯、清晰。
4. 课题强调理性分析基础上的直觉判断，设计师对于形式感必须能够加以控制和约束。
5. 课题强调大量的快速草模实验，在反复比较中提升视觉的判断力，正如任何一项技能，不练是不可能真正掌握它的。

### 课题要求：

1. 制作立方体组合，造型独特而富个性
2. 数量：20组/人
3. 材料：白卡纸
4. 时间：2周

## Project 1 Cube

### Presentation

1. The most foundation topic has mainly discussed basic relations between various essential factors when three (either many) cubes (or other objects) are organized to form a whole together,; As well as creating basic rule of vision form which moving.
2. To inducts the proportion, the spool thread, the connection structure, the balance, and kinetic potential and so on the basic concept through this topic.
3. The topic removed the color, material, curved surface, axial change and so on modeling factors, causes the topic to become pure and clear as far as possible .
4. The topic emphasize intuitable judgment based on rational analysis, the designer must be able to control and restrain the form feeling.
5. The topic emphasize massive fast grass mold experiment, promote visual judgment in compares repeatedly, just like any skill, no practice is impossible to grasp it truly.

### Topic Requisition

1. Manufact cube combination, modeling unique and rich individuality.
- 2.Quantity: 20 sets per one.
- 3.Material: Plain paperboard.
- 4.Time: Two weeks.

# 基本概念

**固有比例：**每个形体的长、宽、高的比例，形成立方体的独特个性。

**相对比例：**一个形体与另一个形体的比例，占有空间的比例。

**整体比例：**组合后形体的整体比例特征。

**主导元素：**体量最大的一个，在组合中占主导地位。

**次要元素：**次要元素的加入使组合特征更加生动，通常在轴线方向、固有比例、结合方式上加以变化。

**附属元素：**附属元素使组合更具三维感、对比感，使组合更具特征。

**轴：**固有比例的不同使得形体具有不同的方向感，轴是隐蔽在形体中的重要视觉元素。

**形体联接方式：**楔入、支撑、相贯。

## Basic Concept

**Inherent proportion:** Each physique length, the width and the high proportion form the cube's unique individuality.

**Relative proportion:** A physique with another physique proportion, holds the spatial proportion.

**Overall proportion:** After combination physique overall proportionable characteristic.

**Leading element:** Amount of space occupied the biggest one occupies the dominant position in the combination.

**Secondary element:** Joining the secondary element causes the combination characteristic to be more vivid, and usually in the spool thread direction, the inherent proportion, and the union way performs to change.

**Attached element:** The attached element causes the combination to have more three dimensional feeling and contrast feeling, causes the combination to have more characteristic.

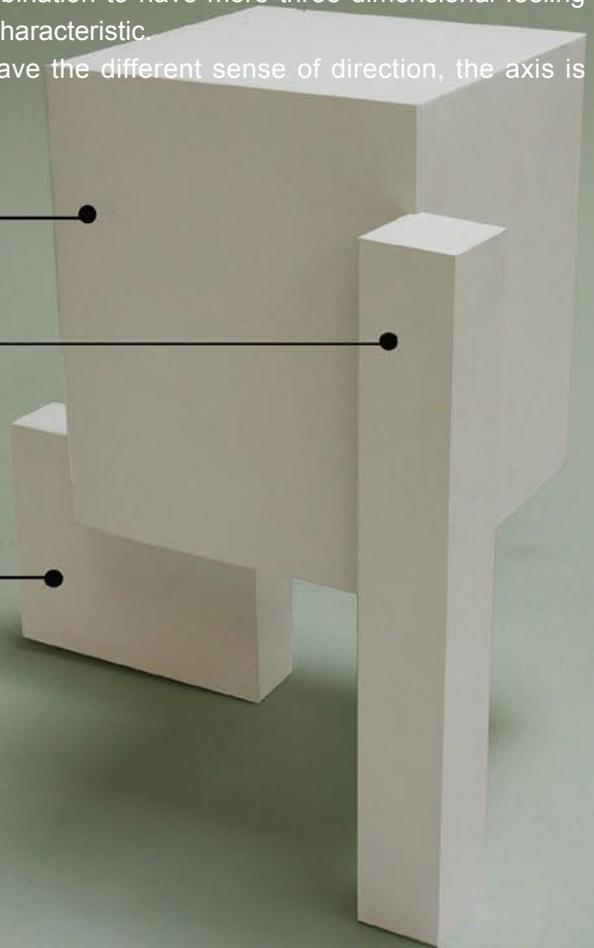
**Axis:** The inherent proportion enables the physique to have the different sense of direction, the axis is important visual element hiding in the physique.

**Physique joint way:** Keys on, the support, passes through.

主导元素

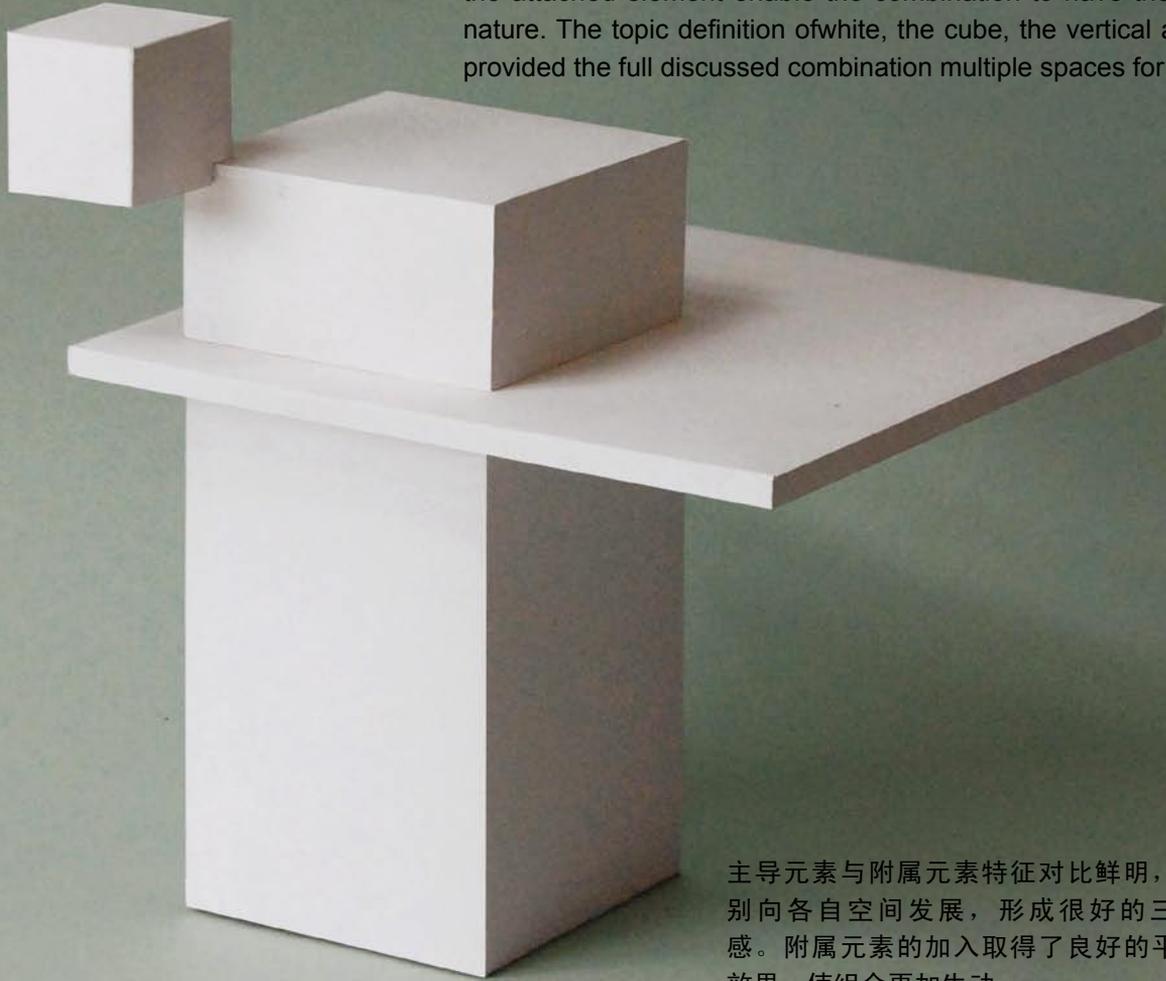
次要元素

附属元素



“多样性统一”是视知觉过程中普遍适用的基本原则，多样可以产生丰富的个性，统一可以形成完整的识别性。比例、轴向、连接方式的变化会形成极其丰富的多样性，主导、次要、附属元素的关系使组合具有统一的性质。课题中白色、立方体、垂直轴的限定为我们提供了充分探讨组合多样性的空间。

The multiplicity is unified” is regards the universal suitable basic principle in the process of perception, diverse may have the rich individuality, the unification may form the integrated recognition. The change of the proportion, the axial, the connected way can form rich multiplicity, the relations of the leadership, the secondary, the attached element enable the combination to have the unified nature. The topic definition of white, the cube, the vertical axis has provided the full discussed combination multiple spaces for us.



主导元素与附属元素特征对比鲜明，分别向各自空间发展，形成很好的三维感。附属元素的加入取得了良好的平衡效果，使组合更加生动。

The leading element and the attached element characteristic contrast is bright and develops separately to respective spatial and has very good three dimensional feeling. The attached element joined has obtained the very good balanced effect, caused the combination to be more vivid.

“以前自己在评价一个作品时，只凭感觉，从来不会对它有一个理性的认识，嘴巴上总挂着一句‘感觉好，感觉不错’，但是从没问过自己它为什么好？好在哪里？”“在这幅作品中我选取了三个固有比例相差较大的直棱体，分别作为主导形体、次要形体和附属形体。在他们的连接方式上我选择了楔入和相贯这两种方式。”“我不断从所有的角度对我的设计进行构想，并且尝试不同的连接方式。最后选取了自己最满意的一种形式。”

对课题进一步的理解有助于我们深入体会课题训练的要点。在所有的形态中纯白色的立方体是最简单的形体之一。三个也是代表“多数的”最小数字，之所以做出这样的选择，是因为课题的目标是要探讨最为单纯的三个元素之间的组织形式及其效果之间的内在联系及规律，同时也是一切复杂组合的基础。以各种方式组合的立方体既代表其本身，也代表其他形式的物体。

Before when I appraised a work depending on the feeling,always could not have a rational understanding to it only on the mouth always hangs one “to feel, felt good”, but ever had not asked myself why good it is? where Is the good? I selected three straight bank or ridge between fields body which differed big in inherent proportion in this work to take the leading physique, the secondary physique and the attached physique separately. I chose key on and pass through these two ways in theirs connection way. I unceasingly carry on the conception and the attempt different connection way from all directions to my design. Finally I has selected own the most satisfactoried one form.

The further understanding to the topic Is helpful to us realizes the topic trained main point. In all shapes the pure white cube is one of the most simple physique. Three cubes also represent the most smallest numerals. The reason that makes such choice is because the topic goal is needs to discuss between the organization form and the effect inner link and the rule among the purest three each one elements and is the foundation of all complex combination. By each way organization's cube not only represents its itself, but also represents other forms the object.



“在做这个作品时，我想从垂直方面夸大它的形体。因此我选了一个长方体做为主导形体。同时使每个形体的轴线方向都不一样，强调垂直方向的同时加入横向发展的附属元素，和向上发展的主导元素形成对比关系，产生了戏剧性的节奏，像是突然停顿后疾驰而去。底部简洁明快，顶部变化层次丰富，使整个形体看起来既统一又具有很强烈的节奏感。”

When making this work, I want to exaggerate its physique from its vertical aspect. Therefore I chose a cuboid to do for the leading physique. Simultaneously I causes each physique the spool thread direction not to be all dissimilar, emphasizes the vertical direction at the same time joins the crosswise developing attached element and the upward developing leading element. This has formed the contrast relations , had the theatrical rhythm and is likely stops suddenly and goes speedly away. Succinct and sprightly base and rich level changing the crown make the entire physique look like unification and have the very intense rhythm feeling.





课题制作过程中，经常出现的问题：

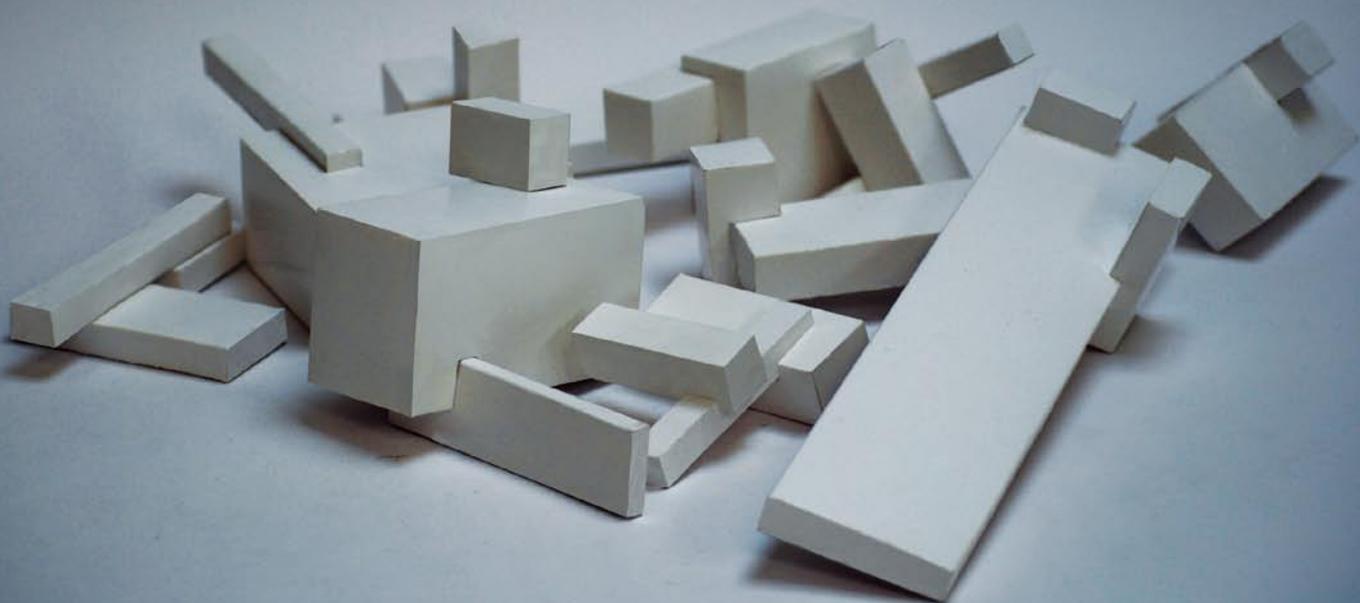
1. 主导元素、次要元素、附属元素之间缺少对比，固有比例和相对比例接近；
2. 容易陷入自己的无意识行为习惯中，制作的立方体单元固有比例或相对比例过于相似，导致组合形体单一而死板；
3. 连接方式过于单一或同一连接方式缺少变化；
4. 缺乏突破和创新的愿望与勇气，在已有组合上重复；
5. 组合不能从各个方向看上去都具有良好的视觉效果。

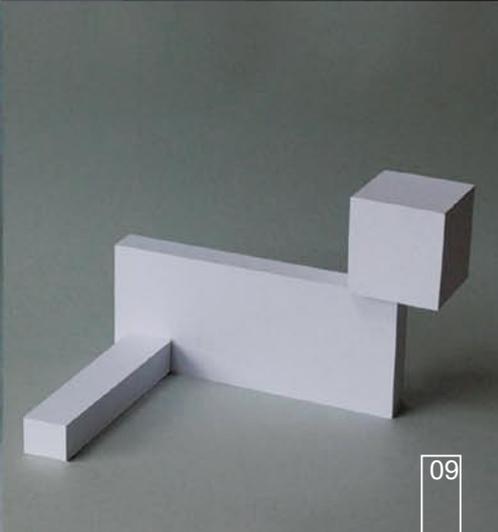
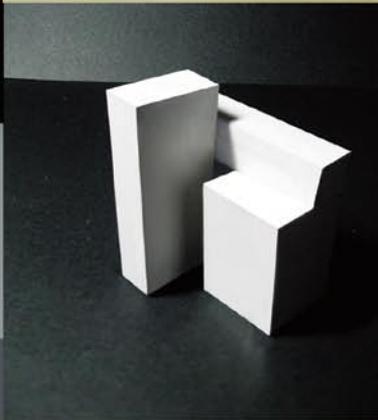
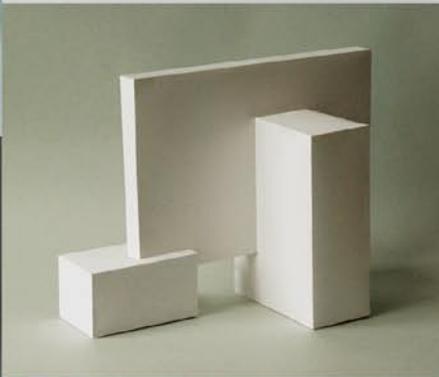
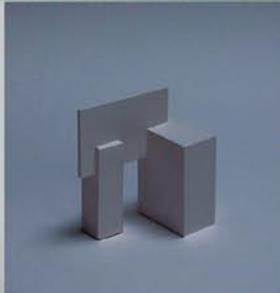
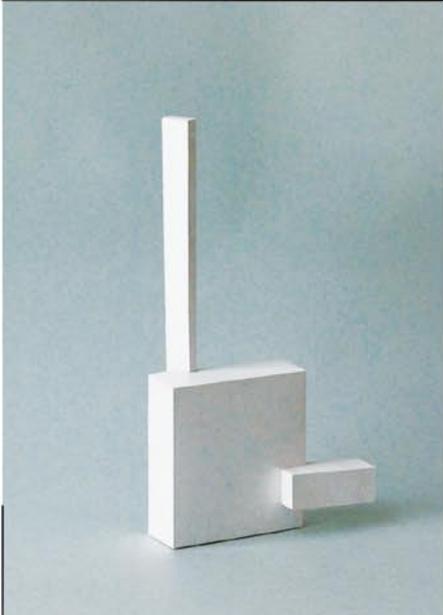
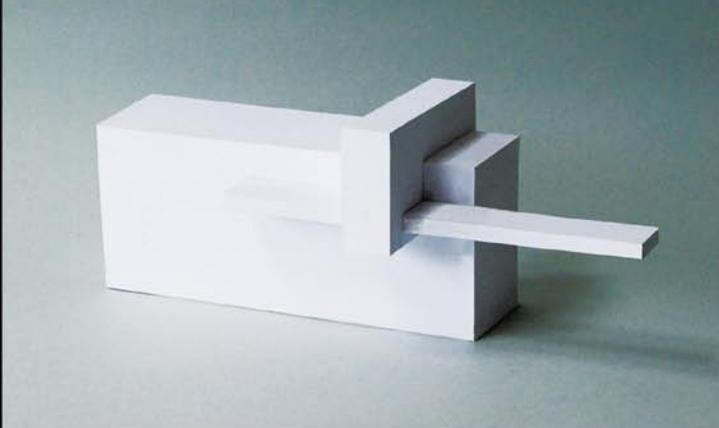
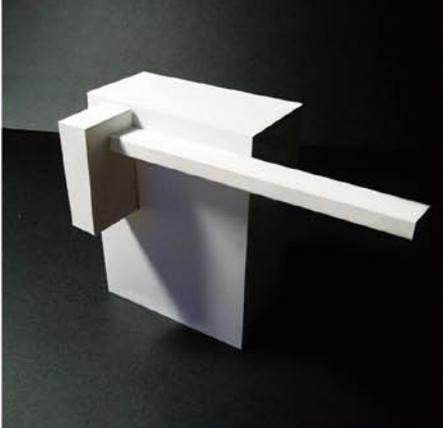
In the topic manufacture process, the question appears frequently

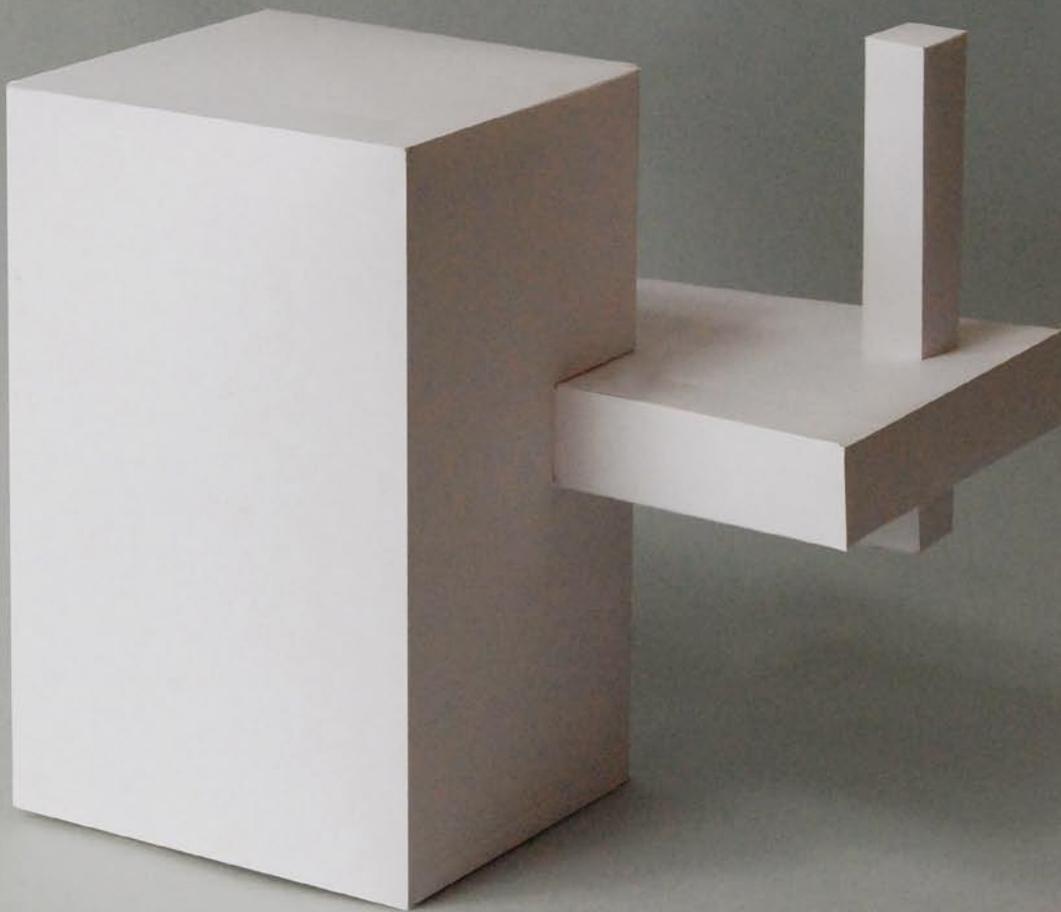
1. Between the leading element, the secondary element, the attached element the contrast is lacking, the inherent proportion and the relative scale are closed.
2. It is easy to fall into own unconsciousness behavior custom. It is too similar in the manufacture cube unit inherent proportion or the relative scale. These cause the combination physique to be unitary and stodgy.
3. The connection way is too unitary or the identical connection way lacks the change.
4. Lacking the breakthrough and the innovatal desire and courage, duplicating the combination that have been.
5. The combination cannot look has the good visual effect from each direction.

为了方便进行立方体组合和思考，事先制作大小、比例不等的立方体若干以备组合之用。制作立方体的材料可以用卡纸，也可以用雕塑泥、橡皮泥等容易成型材料。

In order to facilitate carries on the cube combination and ponder, manufacturing the size, the proportion different cube beforehand certain to prepare using of the combination. Manufacturing the three-dimensional material may use the carton, also may use the material manufacture which the sculpture putty, the children's modeling clay and so on easy to take shape material.

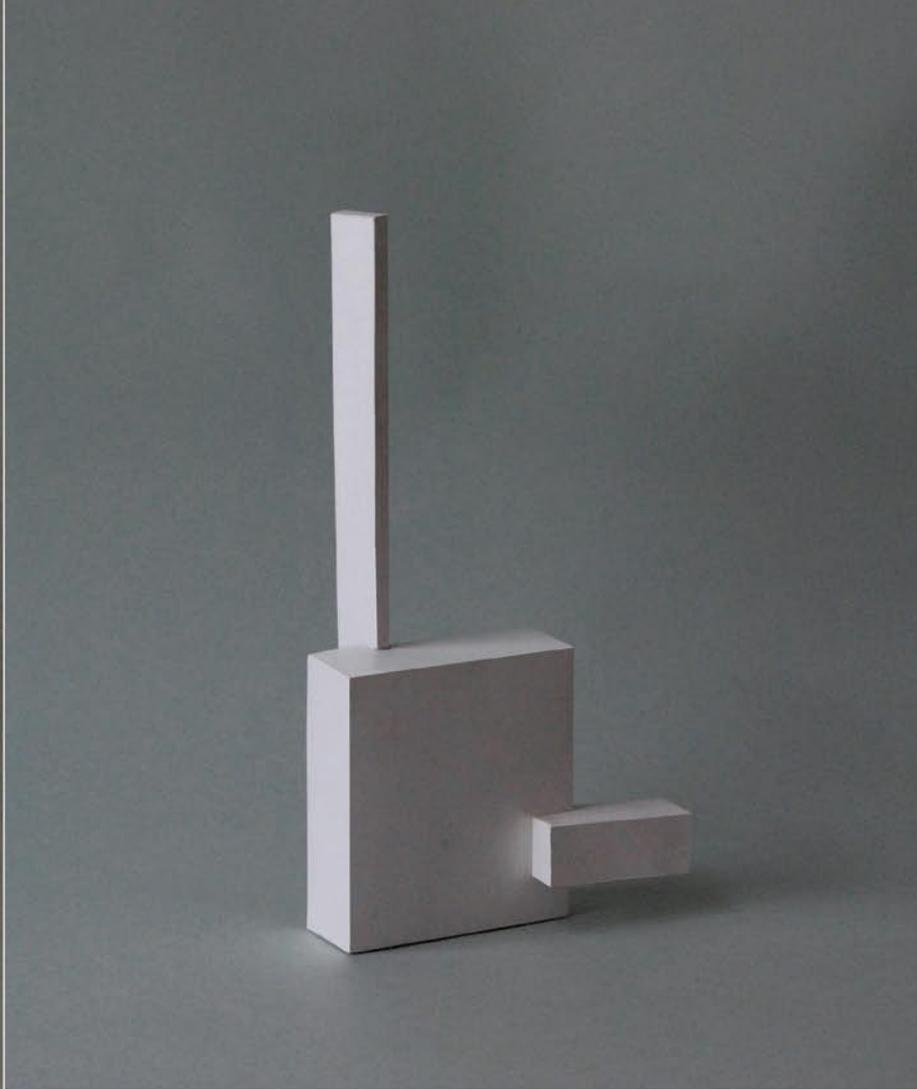






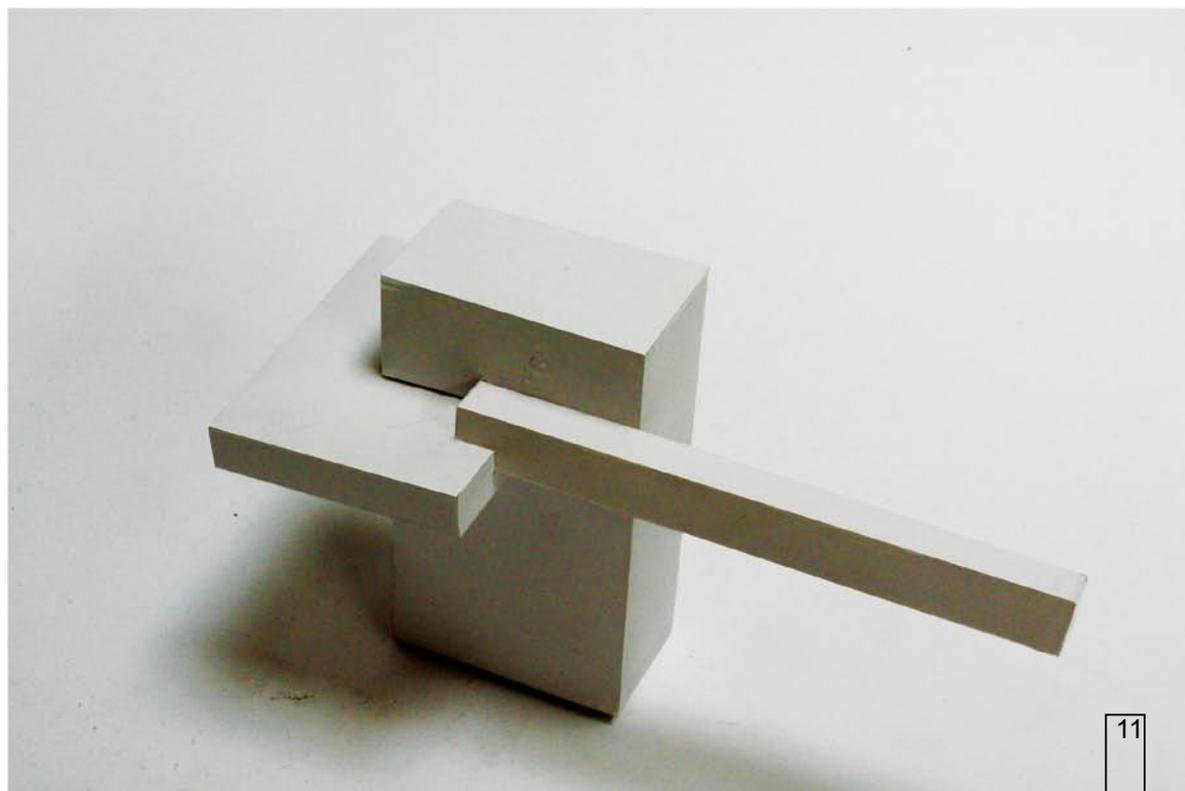
课题练习的重点在于提高我们视觉的敏感性与视觉合理性的判断能力，作品中三个元素的组合方式是无限的，并且每种组合方式所带来的视觉与心理影响是不同的，在不断的比较和感受中确定最符合自己期望效果的组合。课题故意忽略了构成与传达的主体性的要求，而是集中考察因组合的变化与视觉体验所形成的对应关系。

The topic practice key point lies in enhances our vision sensitivity and visual rational judgment ability. In the work three element combination ways is infinite and each combination way brings different the vision and the psychological influence . Oneself desired effect combination is determined in the unceasing comparison and the feeling..The topic has neglected the constitution and the transmission independent request intentionally, but concentrates the change and the visual experience corresponding relations which because the inspection combines.



次要元素和附属元素在主导元素的一侧，使整体重心偏移产生动态平衡。作品结构特点清晰，关系紧密，富有空间感。但作者忽视了从多角度观察此组合时，个别角度的效果并不十分理想，这是很容易出现的问题，应该注意在调整每个单元的位置时从不同的角度审视，以判断其最佳的尺度、比例和位置关系。

The secondary element and the attached element are in leading element one side. This cause the overall center of gravity displace to have the dynamical equilibrium. The work unique feature is clear, the relations is close and rich sense of space. But this is a question which very easy to appear when the author has neglected from the multiple perspectives observation combination inducing to individual angle effect not extremely ideal. We should pay attention when adjusting each united the position carefully to examine from the different angle to judges its best criterion, the proportion and the position relations.

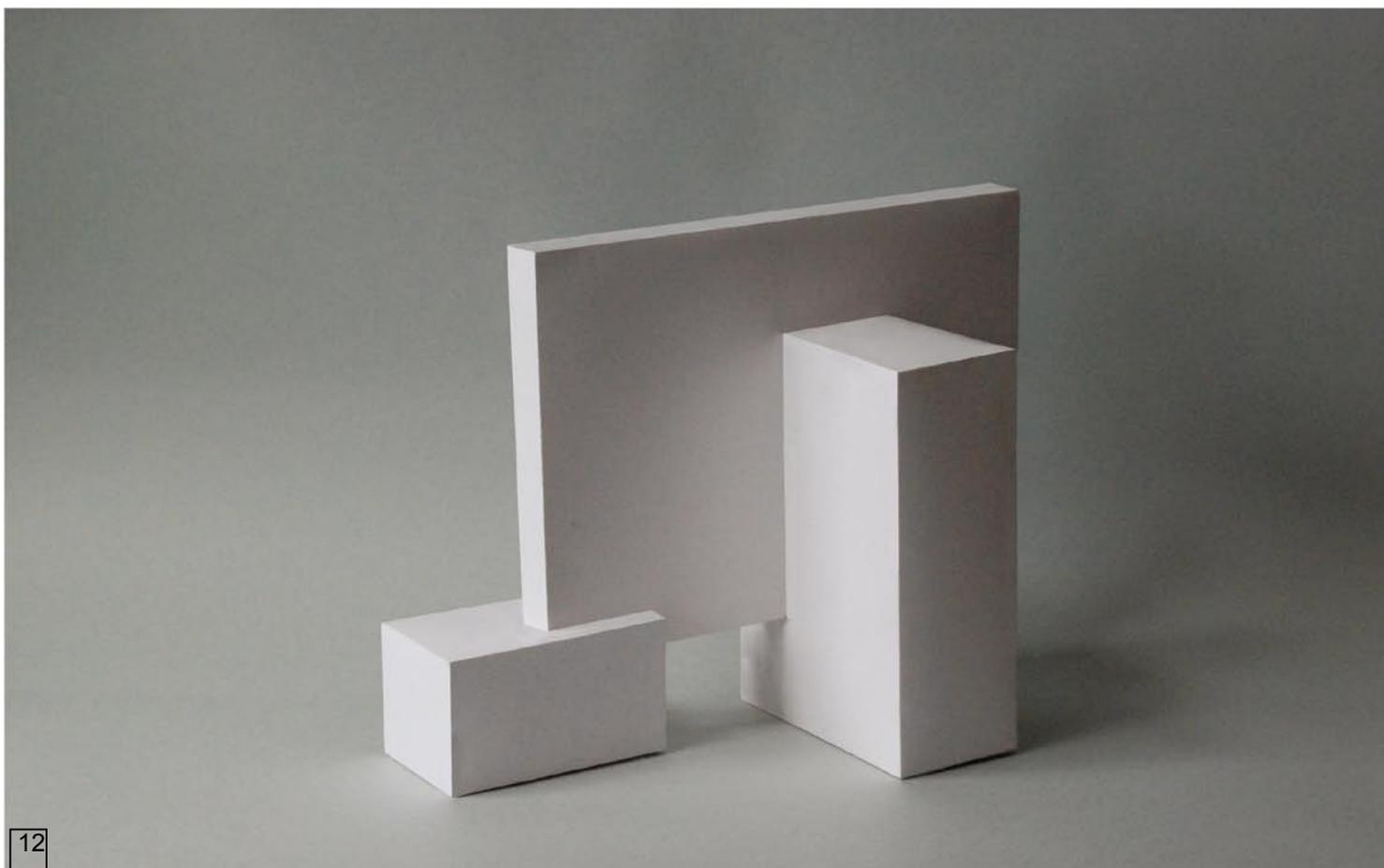
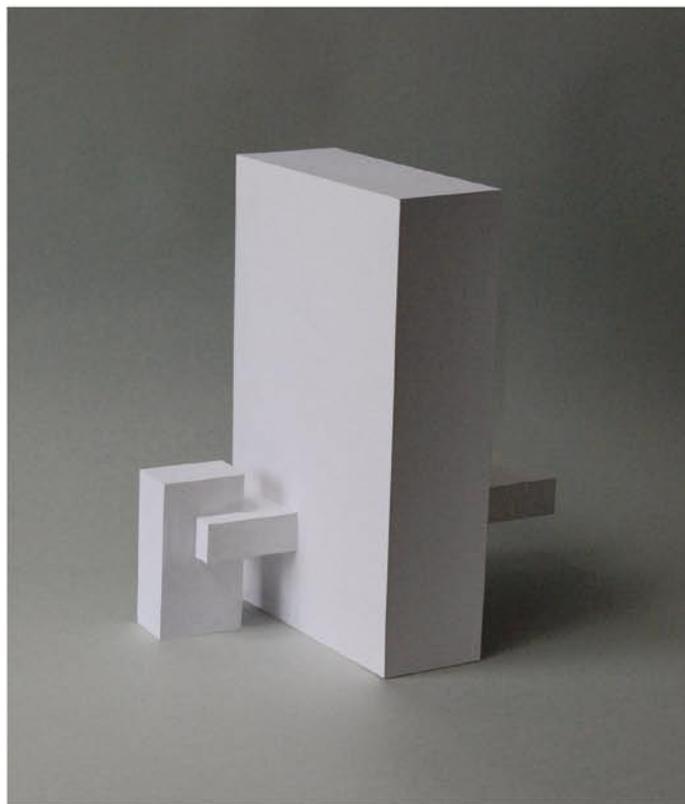


作品在单元形体的选择上充分考虑了个体差异性，形成了较强的对比关系，但忽略了从三维空间的多角度观察结果的丰富性。

The work have considered fully in the unit physique choice the individual difference, forms the strong contrast relations but has neglected observing result rich from three-dimensional space multiple perspective.

作品同样在单元形体的选择上考虑了个体差异性，但其主次关系形成的对比没有得到强化，在整体比例上也显得缺少张力，使作品略显平淡。

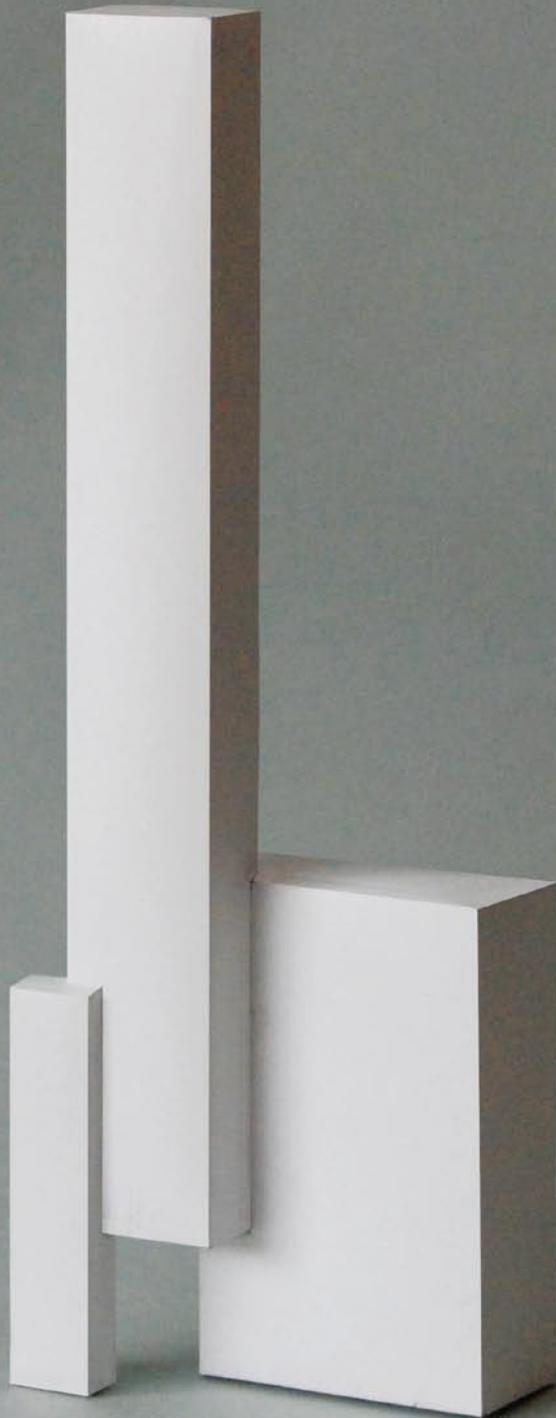
The work has considered the individual difference in the unit physique choice, but its contrast that primary and secondary relations formed has not obtained the strengthening, lacks the tensivity in the overall proportion. These cause the work to reveal slight and light.

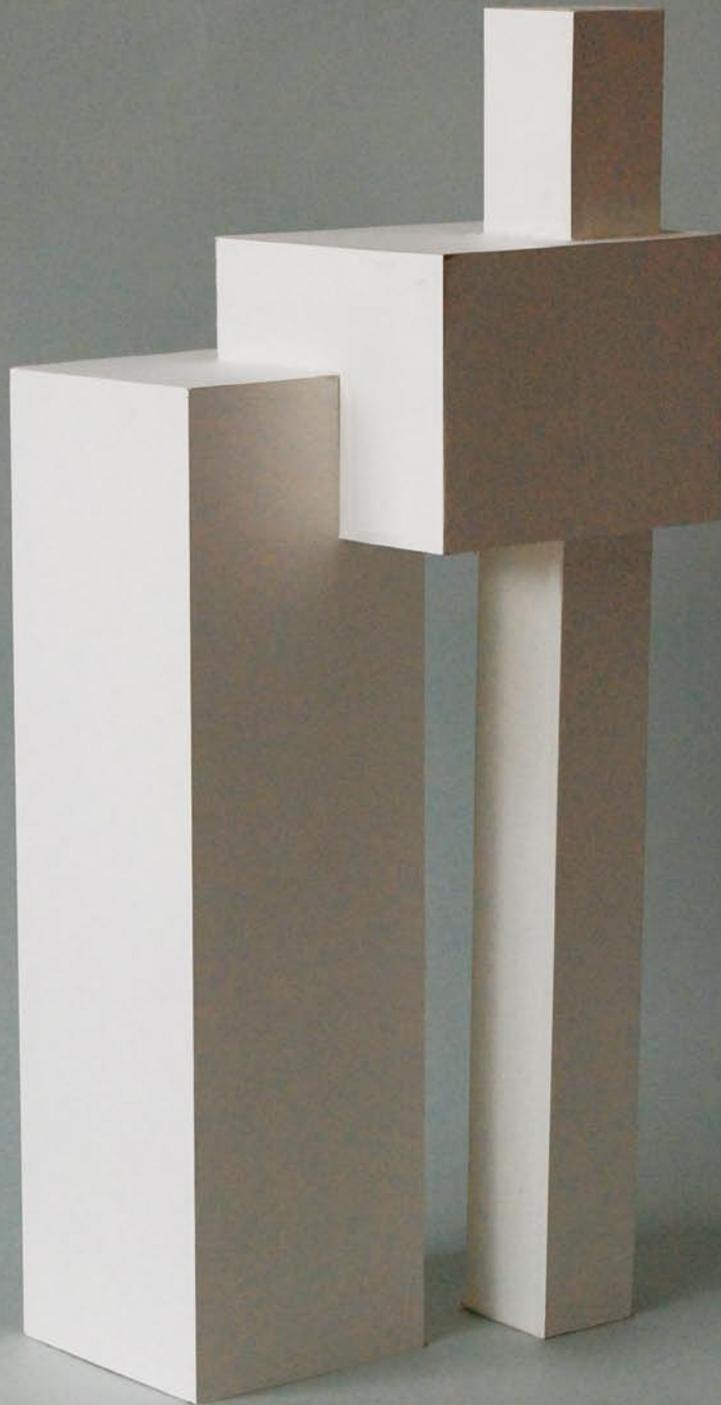


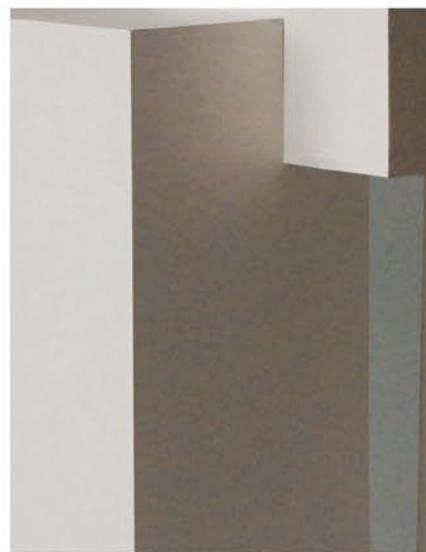
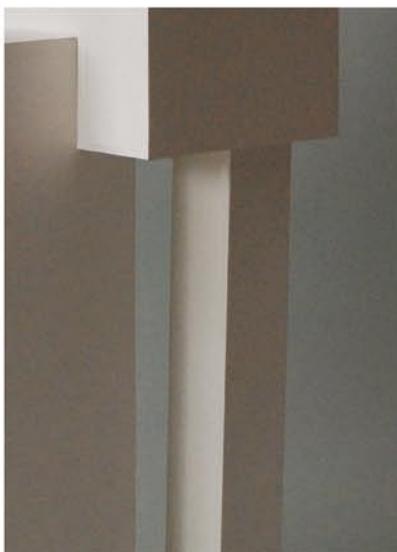
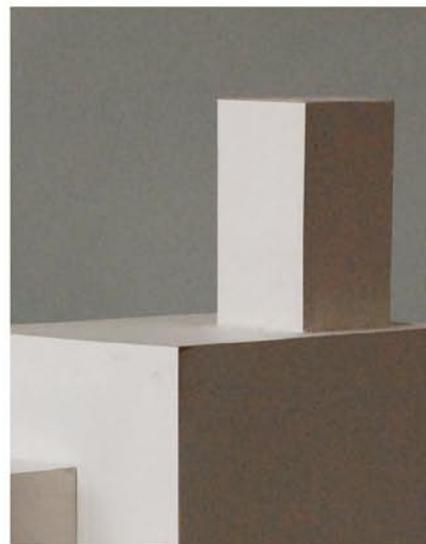
主导元素强烈的垂直比例，使作品具有向上的基调。次要元素与主导元素采用支撑关系，同样强调了垂直比例，并使主导元素得到加强，附属元素补充了组合的平衡感，进一步强调了该作品的向上趋势。三个立方体的轴线处于平行状态，使作品具有高度的统一感。组合的统一感还体现在三个元素之间的结构关系上，相互依存缺一不可，每个元素在整个组合中都发挥着各自的作用。课题的目标就是创造出既有个性又和谐统一的形体组合。多样性与统一性同样具有挑战性。作者必须使自己积极的参与其中，用心体会每个组成部分的特有价值才能有新奇的发现。

The leading element's intense vertical proportion enable the work to have the upward main key. The secondary element and the leading element use the support relations, it further emphasized the vertical proportion, and enable the leading element to obtain the enhancement. The attached element has supplemented the combination equilibrium, this further emphasized this work upward tendency. Three cube's spool threads are at the parallel condition that enable the work to have the high unified feeling. The unified feeling of the combination also manifests among three elements in the structure relations that they depend on each other mutually indispensably. Each element is playing own role in the entire combination.

The topic goal is that creates both has individuality and harmoniously unifies physique combination. Both the multiplicity and the unity have challenging. The author must cause oneself participate positively in it and realized attentively each constituent part's value ,then have the novel discovery.







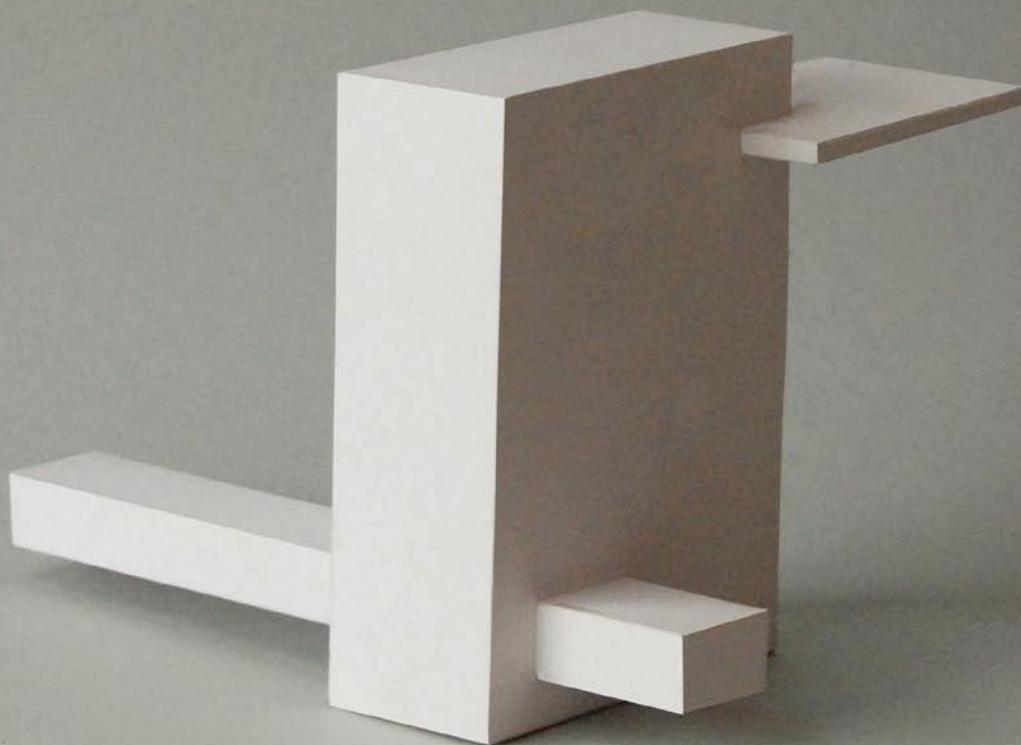
作品以垂直比例特征的形体为主，附以无方向性的立方体，形成粗细、长短的对比关系，立方体与顶部的连接结构形成相对复杂结构，引起上下节奏的变化，并形成整个构成的重要特征。

The work forms thickly thin, the length contrast relations by the vertical proportion characteristic physique and attaches by the no directivity cube, simultaneously the crown connective structure forms the relatively complex structure, then causes the rhythm change and forms the entire constitution's important characteristic.

作品由主导元素和次要元素确立了纵向的发展趋势，且次要元素成为整体构成的决定性因素，其固有比例和主导元素所形成的对比奠定了作品的性格，附属元素处理使整体构成更加生动和丰富。除了在纵向上突出的张力感，在其他维度上也具有一定的延伸，表现出丰富多样下的统一、和谐与平衡。

The work has established the longitudinal trend of development by the leading element and the secondary element, and the secondary element becomes the determining factor of the whole constitution. Its inherent proportion and the leading element form the contrast that has established the work disposition. The attached element processing is the whole constitution is more vivid and rich. Except it is in on the longitudinal prominent tensity feeling, also has certain extending in other dimensions and displays harmonious and balanced unification under bountiful.



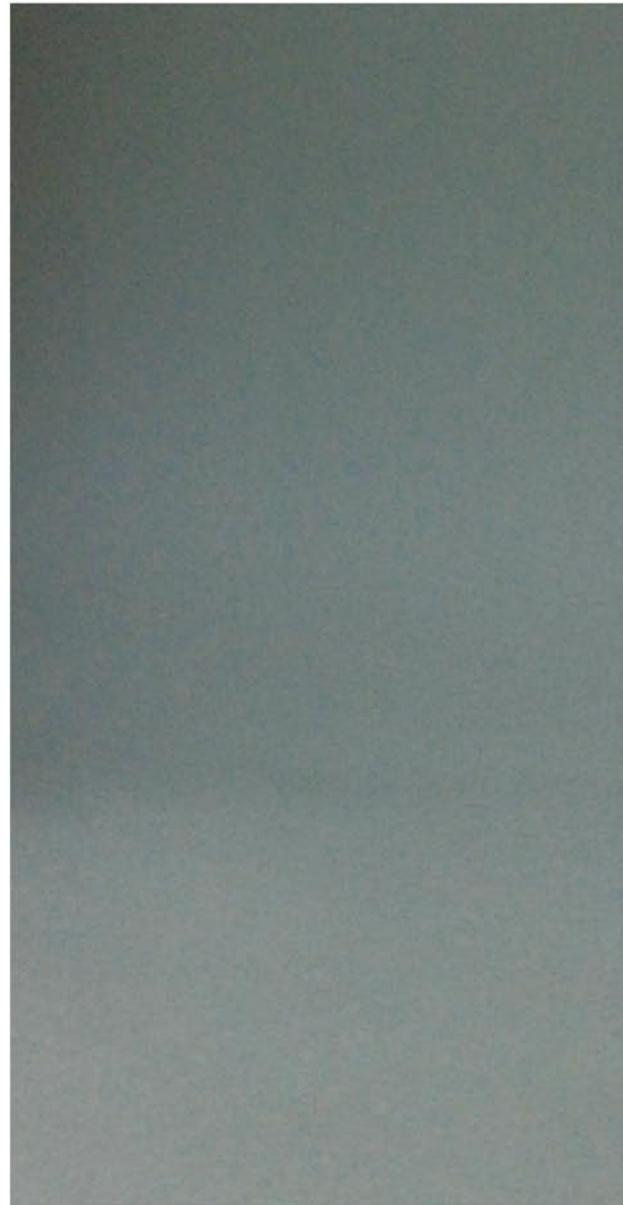
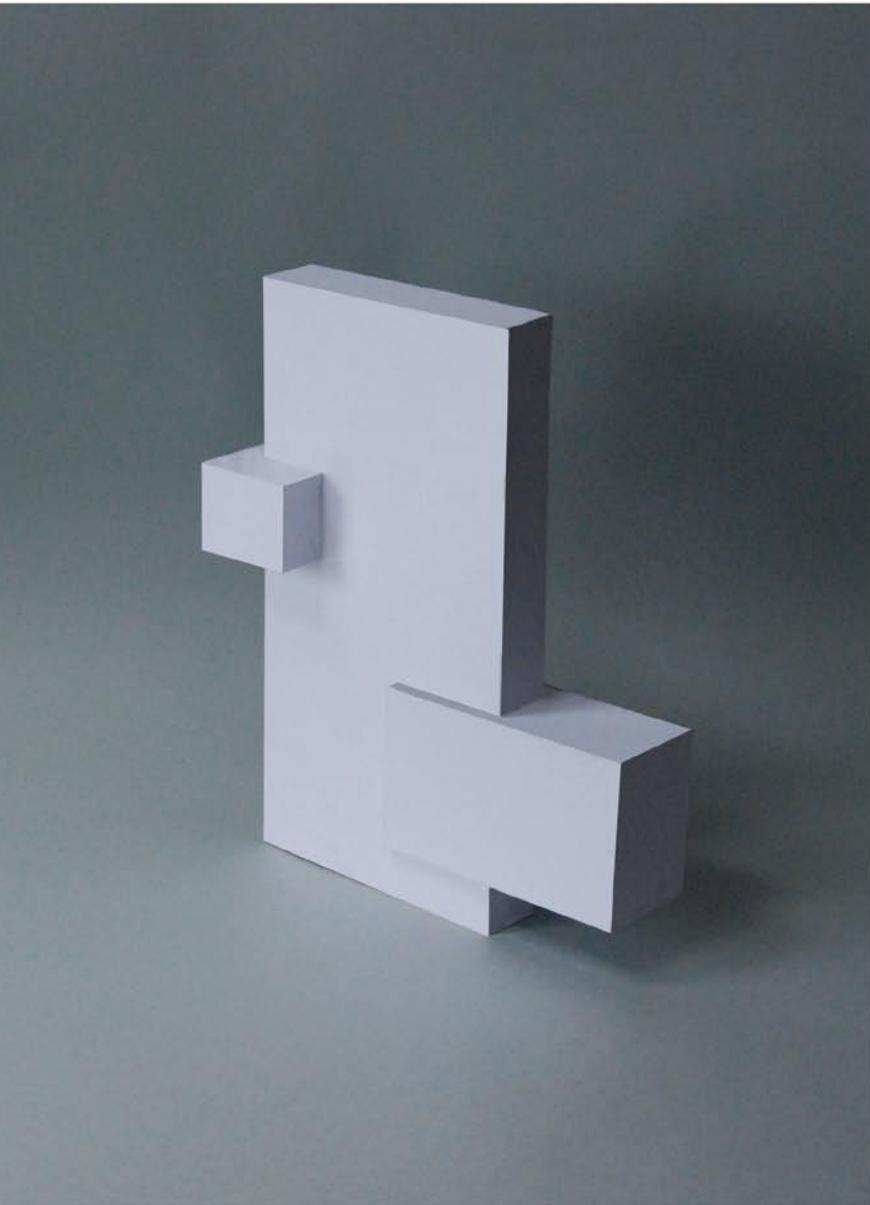


“主导元素、次要元素、附属元素的关系很明确，所选择的立方体的固有比例各有变化，轴线方向也各不相同，整个作品给人以平和安静的感觉。”

作品虽将主导、次要、附属元素做了区分，但整体趋势特征不够，主要原因在于附属元素与次要元素在结构上并没有产生相互依赖的关系，且附属元素的方向感不够明确，加之其处于主导元素的两端而无法与次要形体产生呼应关系，从而削弱了整体感。再者，组合在三维空间里各维度比例均衡，缺少个性化的特征，显得平淡而视觉张力不足。

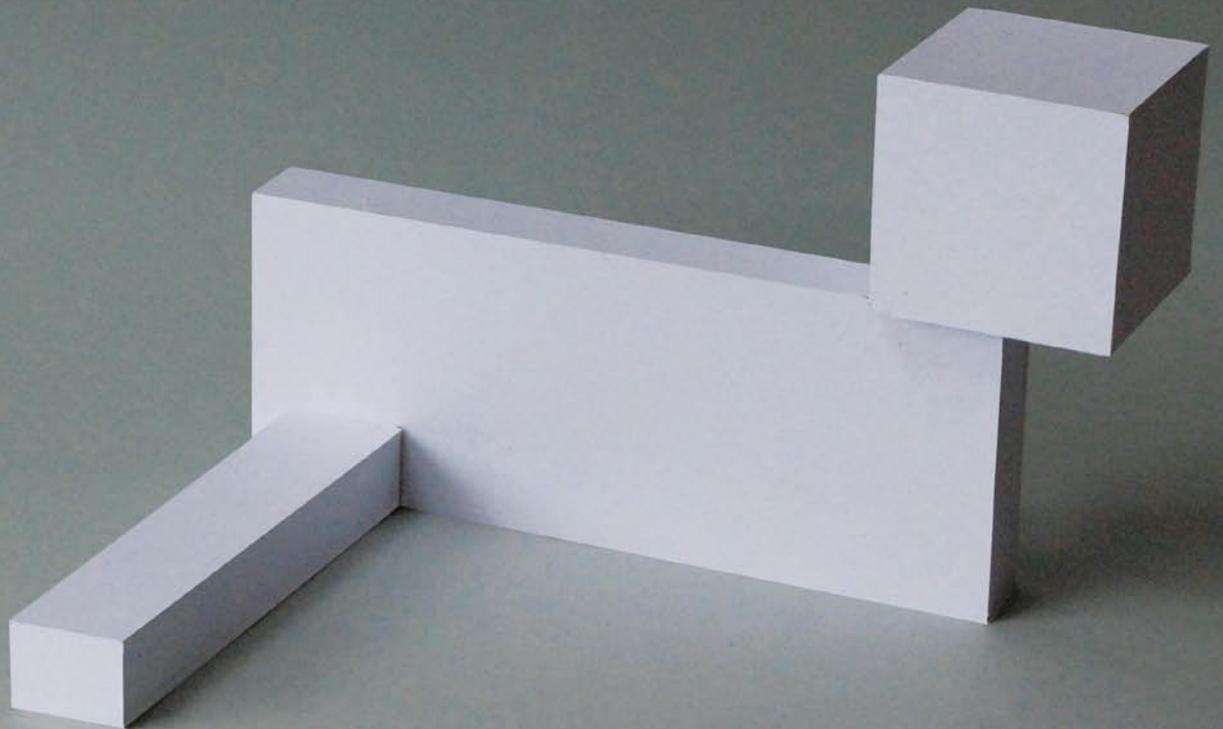
The relations among the leading element, the secondary element and the attached element are clear very much. The chosen cube's inherent proportion has change respectively. The spool thread direction is also various. The entire work gives gentle peaceful feeling.

Although the work has made the discrimination among lead, secondary and attached element, but the overall tendency characteristic is insufficient, the primary cause lies in the attached element and the secondary element have not had the interdependent relations in the structure, and the attached element sense of direction is not clear; In addition the both sides in the leading element are unable to produce echoes the relations with the secondary physique, thus weakens the associative perception; Furthermore, combining in the three-dimensional space various dimensions proportion is balanced, lacks slightly personalized characteristic, reveals lightly and is insufficient in the visual tensity.



元素的主次关系是明确的，但在组合上出现了较大的问题。没能在三个维度上进行扩展，结合方式也完全相同，使作品从多角度观察时欠缺丰富性，而且在扩展的两个轴向（纵横）上也没有形成主次，使得作品缺乏了明确的个性特征和令人兴奋的视觉兴趣点。

The elements have more bigger problem in the combination although their primary and secondary relations are explicit. It is that they not been able to carry on the expansion in three dimensions and the union way completely are also same, this causes the work to be short of rich from multiple perspectives observation. Moreover the two axial (vertically and horizontally) in expansion have not formed the primary and secondary, this caused the work to lack the explicit individuality characteristic and the rousing visual interest spot.



作品在三个元素的选择上考虑到了固有比例的变化和对比，却忽略了相对比例的对比；从体量上三个单元形体比较接近，没有形成明确的主导、次要和附属的关系。三个元素力量相当，不能形成视觉的中心，统一的整体感相对较弱。组合时注意了三维空间感的发展，但在连接关系上缺少变化和紧密性，使形体略显松散，缺少组合的结构感，也进一步降低了作品的统一性。

The work considered change and the contrast of inherent proportion in three element choices, but neglected the relative scale contrast that is three unit physique is quite close from the amount of space occupied, has not formed the explicit leadership, secondary and the attached relations. Three element strengths is quite that cannot form visual the center and the unification associative perception weak. Its combination has paid attention to the three dimensional sense of space development, but lacks the change and compactness in the connection relations. This causes the physique to reveal slightly and loosely, lacks the structure feeling, and further reduces the work's unity.

## 课题二 曲面

## Project 2 Curved Surface

### 课题提示

1. 曲面形态课题在立方体课题的基础上，继续探讨关于曲面造型元素的构成规律和特性；在曲面造型中主导、次要、附属元素发生了转换，转换为曲面造型元素的强弱关系。
2. 曲面造型的构成元素：曲度、轴线、轮廓。三个元素决定着一个曲面体的特征。曲度决定着曲面的张力；轴线决定曲面的方向；轮廓决定着曲面的形状特征。组合体中各个曲面的三个元素越是一致，统一性越强；变化越大，组合体就越复杂。但过多的变化会产生混乱的结果。元素之间必须视为整体来考量，保持适度的平衡。
3. “多样性统一”原则在曲面构成中的效用。决定曲面体的三个元素各自发挥不同的作用，在构成中应有把握其变化与统一的尺度。

### 课题要求：

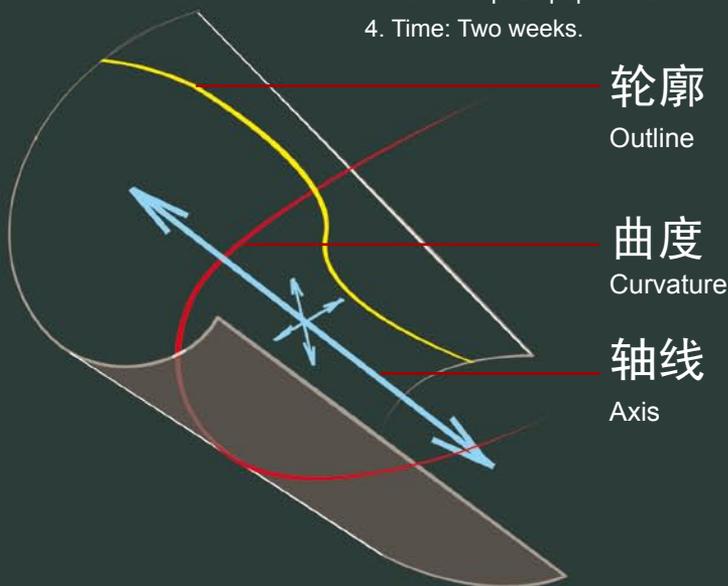
1. 设计制作曲面组合体，独特形式美感，符合“多样性统一”原则
2. 数量：5组/人
3. 材料：白卡纸
4. 时间：2周

### Presentation

1. The curved surface shape topic continues to discuss about the surface modeling element's constitution rule and the characteristic in the cube topic foundation; The lead, secondary, attached element in the surface modeling has had the transformation, that it is the strong - weak relations of the surface modeling element.
2. Three elements are deciding the characteristic of a curved surface body that are curvature, spool thread and outline Surface. They are the constitution element of curve modeling. The curvature decides the curved surface tension. The spool thread decides curved surface direction. The outline decides the curved surface shape characteristic. If the three elements of each curved surface in the assembly are more consistent, the unity is stronger and the change is bigger, then the assembly is more complex. Excessively many changes can have the chaotic result. The elements must be considered as the whole and maintained the moderate balance.
3. the principle's effectiveness - "the multiplicity to be unified" in curved surface constitution decides the three element of curved surface body display different function respectively. The change and the unification criterion should be have confidence in constitution.

### Topic Requisition

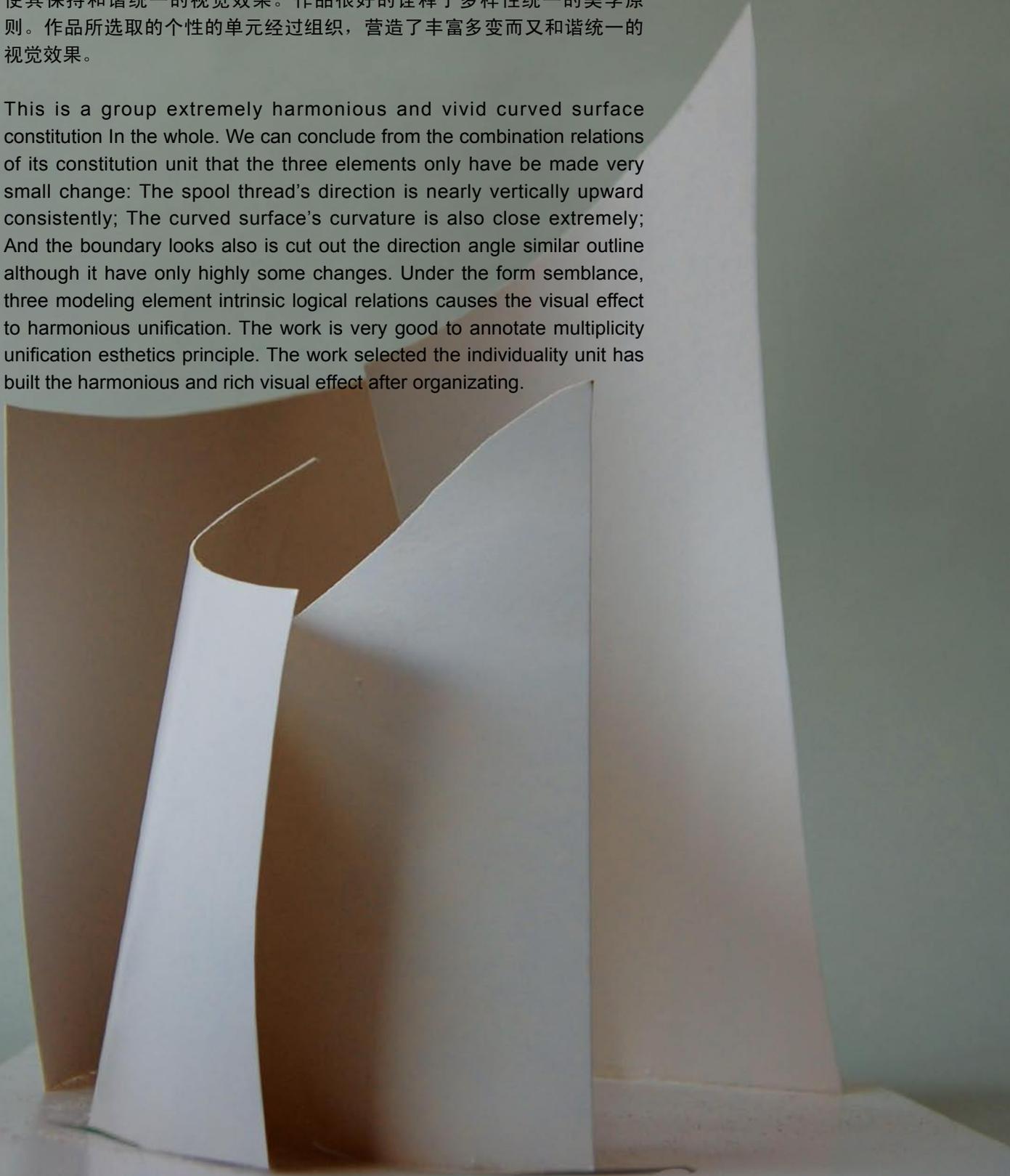
1. To design and manufacture curved surface assembly, require the unique form esthetic sense, conforms to "the multiplicity to be unified" the principle.
2. Quantity: 5 sets/people.
3. Material: plain paperboard.
4. Time: Two weeks.

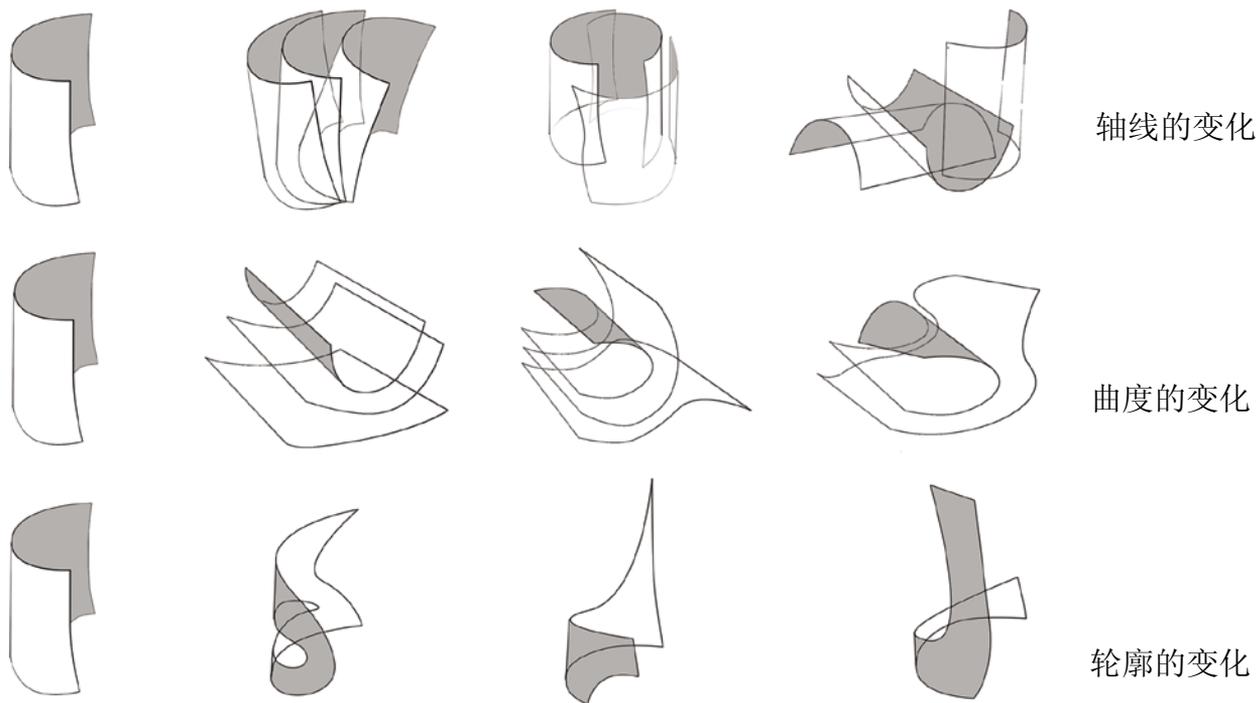


影响曲面的三个主要元素

整体上看这是一组非常和谐而生动的曲面构成，分析其构成单元的组合关系可以看出，三个元素都只是做了很小的变化：轴线方向几乎一致垂直向上，曲面的曲度也非常接近，再看边界也是被裁剪成方向角度相似的轮廓，仅是高度有些变化。在形式的外表下，三个造型元素的内在逻辑关系使其保持和谐统一的视觉效果。作品很好的诠释了多样性统一的美学原则。作品所选取的个性的单元经过组织，营造了丰富多变而又和谐统一的视觉效果。

This is a group extremely harmonious and vivid curved surface constitution in the whole. We can conclude from the combination relations of its constitution unit that the three elements only have been made very small change: The spool thread's direction is nearly vertically upward consistently; The curved surface's curvature is also close extremely; And the boundary looks also is cut out the direction angle similar outline although it has only highly some changes. Under the form semblance, three modeling element intrinsic logical relations causes the visual effect to harmonious unification. The work is very good to annotate multiplicity unification esthetics principle. The work selected the individuality unit has built the harmonious and rich visual effect after organizing.





上图是对曲面元素进行变化的一些语法结构示意，是关于一个简单曲面体的三个控制元素的变换方式。在一个作品中往往会综合多种变换手法，以表达更为丰富、细致的内容或感觉。在组织曲面的过程中依然遵循“多样性统一”的设计原则。每种元素变化的度决定着此种形态的统一性和复杂性。

原则上说，每种元素进行变化的可能性是无限的，加之组合方式的变化就更是无限的可能，但在无限的可能性中如何找到更加符合表现目的、具有审美价值和形式感的组合关系就需要懂得其中的规律。

视觉语言与文字语言比较，有其特有的组织规律，或称其为语法结构。课题之目的在于通过几个实例解读其中的规律，举一反三。掌握一门语言之后，自然不必时时想着语法才能说话表达。但学习初期，对这种语法规则的学习却是十分必要的。造型基础课的主要目的之一就是対形式构成语法及其规律的学习，最终实现这种视觉语言在实务设计中的运用。

在后期的制作中，一些学生已经可以运用理性的思考来控制设计的结果了。这也是学习形式构成的目的所在。将看似偶然、随意的抽象形态用可控的规律、语法组织起来，是设计者必须具备的能力。

The chart is carries on the change to the surface element about some grammar structure hint, and is about three control element transformation way of a simple curved surface body. One work often synthesize many kinds of transformation technique to expresses richer and careful content or the feeling. And following the principle of design -“the multiplicity is unified” in the organization curved surface process. Each kind of element change decides its unity and the complexity . In principle, the possibility is infinite that each kind of element carries on the change, The combination way change also is infinite .But how to find the combination relations in the infinite possibility that it conforms to the performance goaland has the esthetic value and the form feeling is need to understand its rule.

The visual language has its unique organization rule, or calls it the grammar structure comparing the word language. Goal of the topic lies in unscrambles rule through several examples. After grasping a language, it does not need to think at times the grammar to speak the expression. But in initial period, it is extremely essential to study grammar rule. One of main purposes of modeling basic course is to study the form constitution grammar and the rule, then finally realizes this kind of visual language utilize in the practice design.

In the later manufacturing period, some students already may utilize the rational ponder to control design's result. This also is the goal that studies the form- constitution. It is the ability which the designer must grasp and the important tool that can organize the rule and the grammar that Look like resembled, accidental, at will and abstract shape with the controllable.

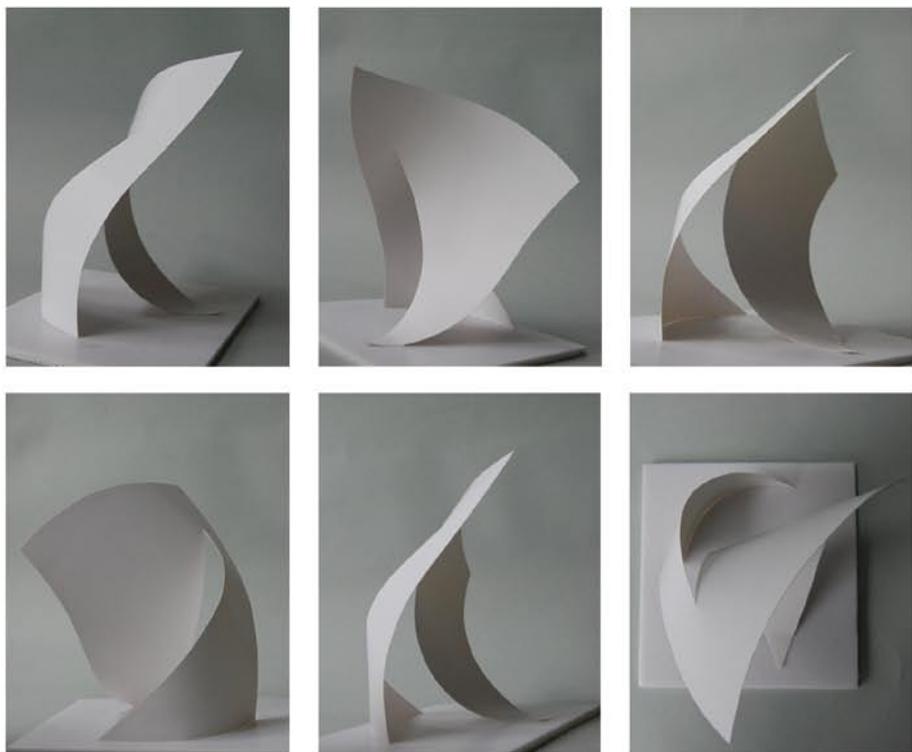


“不同的角度、不同的视野，一个好的作品能让人产生无限的遐想和精神的满足。我选择了两条外轮廓相近的面在弯曲度和轴的方向上进行较大的变化，使形态更具动感。”

A good work can let the human have the infinite daydream and spiritual satisfying from the different angle and the different field of vision. I have chosen two close outside outline surface to carry on the big change in the bending and in the axis direction, causes the shape more vivid.







“在我的脑海中先有一个想要的空间结构，利用弯曲、剪切，调整平面之间的关系，尽自己所能去创造出自己想要的。制作了很多的失败草模之后，才发现了这个让我比较满意的模态。我所做的就是将一整张纸剪了一刀、轻微地扭转了方向，使它呈现出意想不到的曲线和空间结构。从各个不同的角度去观察去思量，然后发现它变得更加生动。那使我为之感到无比喜悦。”

在刚开始制作这个课题时，往往会将一个曲面做得非常复杂，几乎是“缠绕”在一起，就像是各种噪音相互交织。我们需要创造清晰的节奏和美妙的旋律。要做到这一点，就要处理好统一与变化的辩证关系。从多个角度看作品，会发现影响曲面的各要素是如何作用的，一整张纸被裁剪错位后形成交叉的两个曲面，其轴的方向发生了微妙的变化，轮廓由于错位使直线轮廓和平面发生了同步的弯曲，其结果是三个元素于统一平衡之中又轻度的律动。而由其变化的强度适中，使作品给人的整体印象舒缓、轻盈、耐人寻味。

"First I have a spatial structure in mine mind, then use curving, cutting, adjusting plane relations and try to create what I wanted. After I had manufactured very many loses grass mold, I has discovered this satisfactory condition. What I do is to cut a whole piece paper with a knife and reversed slightly the direction, then cause it to present the unexpected curve and the spatial structure. You can discover it becomes more vivid if you Observe from each different angle considers. I feel incomparably joyfully for it."

At the beginning of the work, a curved surface often can been done extremely complex to nearly "winding" in the same place, likely much kinds of noise interweaving mutually. We need to create the clear rhythm and the wonderful melody. Then it need to process the dialectical relation of the unification and the change. It can discover how the influence curved surface various essential factors are effected if you look at the work from many angles. The whole piece paper is cut out by dislocation then form the overlapping two curved surface. Its axis direction occurs subtle change. The straight line outline and the plane has had the synchronized curve for the dislocation . Its result is that the three element are unifying balance and mild rhythm. The work looks like affable, lithe and thought-provoking for the moderate changes.



“作为视觉的东西，开始对我来说是很神秘的。有时一个不经意会创造出让你出乎意料的效果，有时又不知如何开始。作为设计者而言做到这一步是不够的，偶然之间存在着必然，一个面的弯曲、轴线的倾斜、轮廓线的交合看起来是随便而不经意的，其实是经过精心安排和组合的结果。就像反复推敲才能找到最恰当的用词来表达你要说的意思一样。”

"Something visual is very mystical to me at the beginning, sometimes it can create carelessly your unexpectedly effect, sometimes did not know how to start. It is insufficient for designing because it exists inevitably in accidentally. One surface curving, the spool thread inclining and the contour line intercourse looks like casual and nonchalant ,but actually passes through the careful arrangement and the combination. It is like that repeatedly deliberation can find the meaning that is the most appropriate word usage you need to expresses."



“扬帆远航总能引起人们无限的遐想，将风、帆、海浪的感觉通过曲面的有机组合而诠释出来。方向和轮廓在这里成为主导的元素，而轴线和曲度是形成变化的因素。”海水的变化是多样的，但无论如何不会变成岩石的形状，变化要具有统一的一面，自然界的规律本来如此。主动控制你手上的材料，使它看起来更加自然。

"Hoisting the sails to voyage always can cause the people infinite daydream. The wind, the sail, the ocean waves come out through the curved surface's organic combination. The direction and the outline become leading element here, but the spool tread and the curvature are the change factor." The sea water's change is diverse, but cannot turn into the rock shape in any event . The change must have one unificated side. The nature rule is s o originally. Controlling the material in your hand on own initiative and cause it to look like likely the nature.





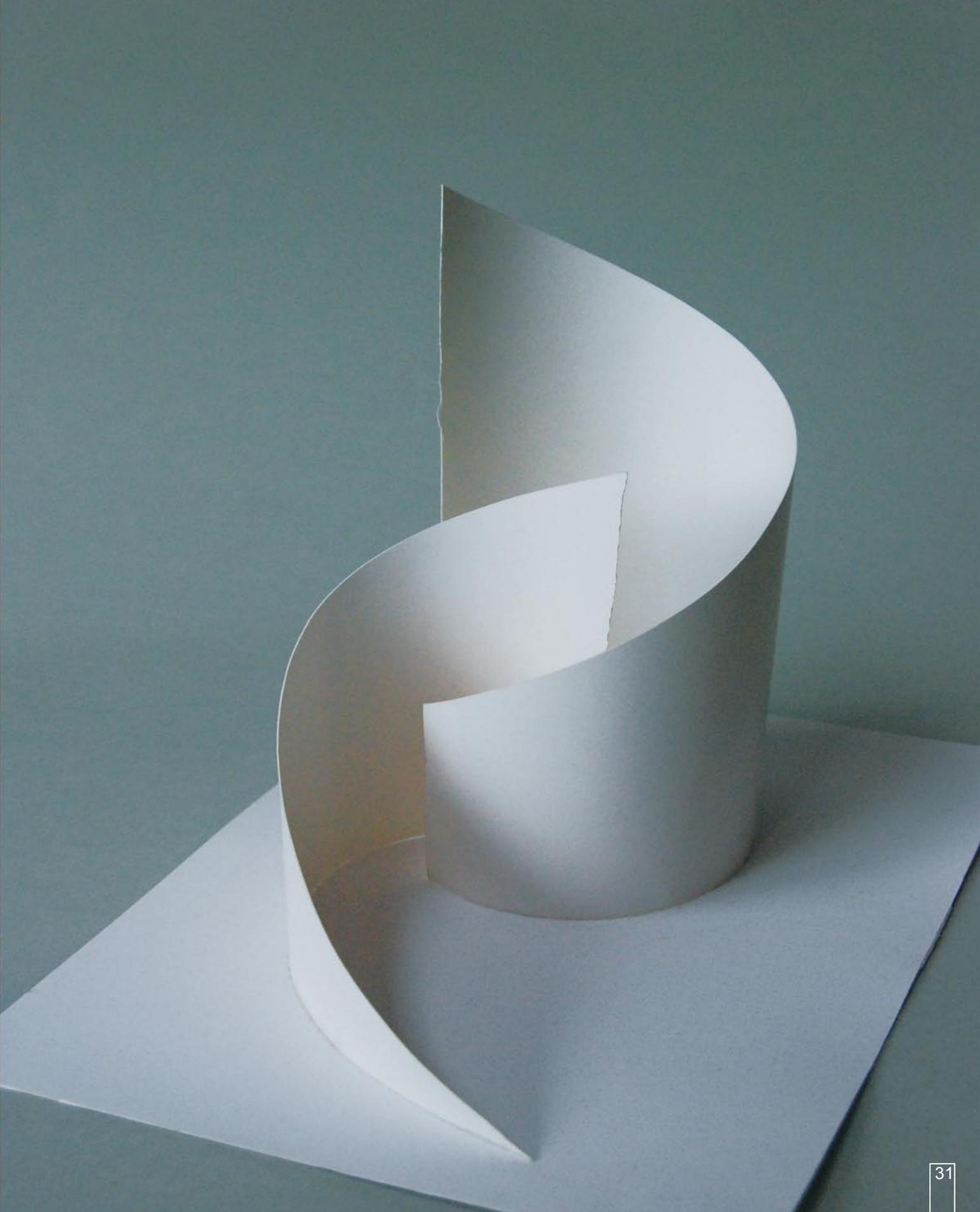


“在制作过程中，开始时用尽可能多的曲面来表达出面所构成的空间感，认为复杂丰富的曲面才能表现出强烈的视觉效果，在多次实践失败以后才发现事实并非如此。就简单的两个面，经过弯曲、交织组合，使它们能够切割空间，产生方向感，便能给人留下清晰的印象。它在轴线方向能够与整体的动势保持一致，展现出理性的美。我喜欢简洁的美，简单而不失内涵，低调而不失优雅。”

曲面组合的另一个重要的特点就是其围合后形成的空间，注意空间的性格特征，开放的、封闭的、流动的、静止的、完整的、分割的等等，也是曲面组合的重要因素。

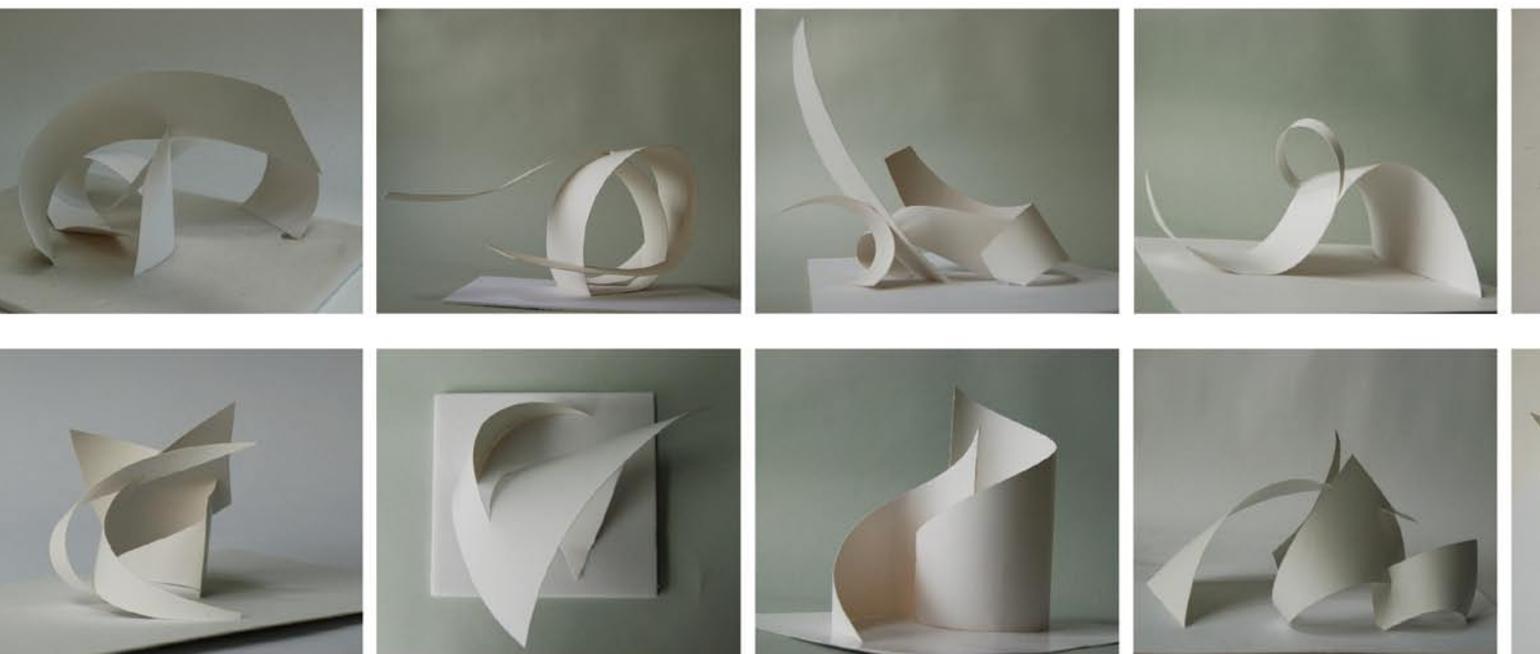
"In the manufacturing process, at the beginning I express the sense of space of surface with as possible as many curved surfaces, because I think the complex and rich curved surface can display the intense visual effect. But I find it is not true after many times defeats . The two simple surface can cut the space, have the sense of direction and make the clear impression to the human if they pass through curving, interweaving and combining . It can maintain consistent in the spool thread direction with the whole and to unfolds rational aesthetic feeling. I like succinct aesthetic feeling which is simple and connotating, the low key and gracefully."

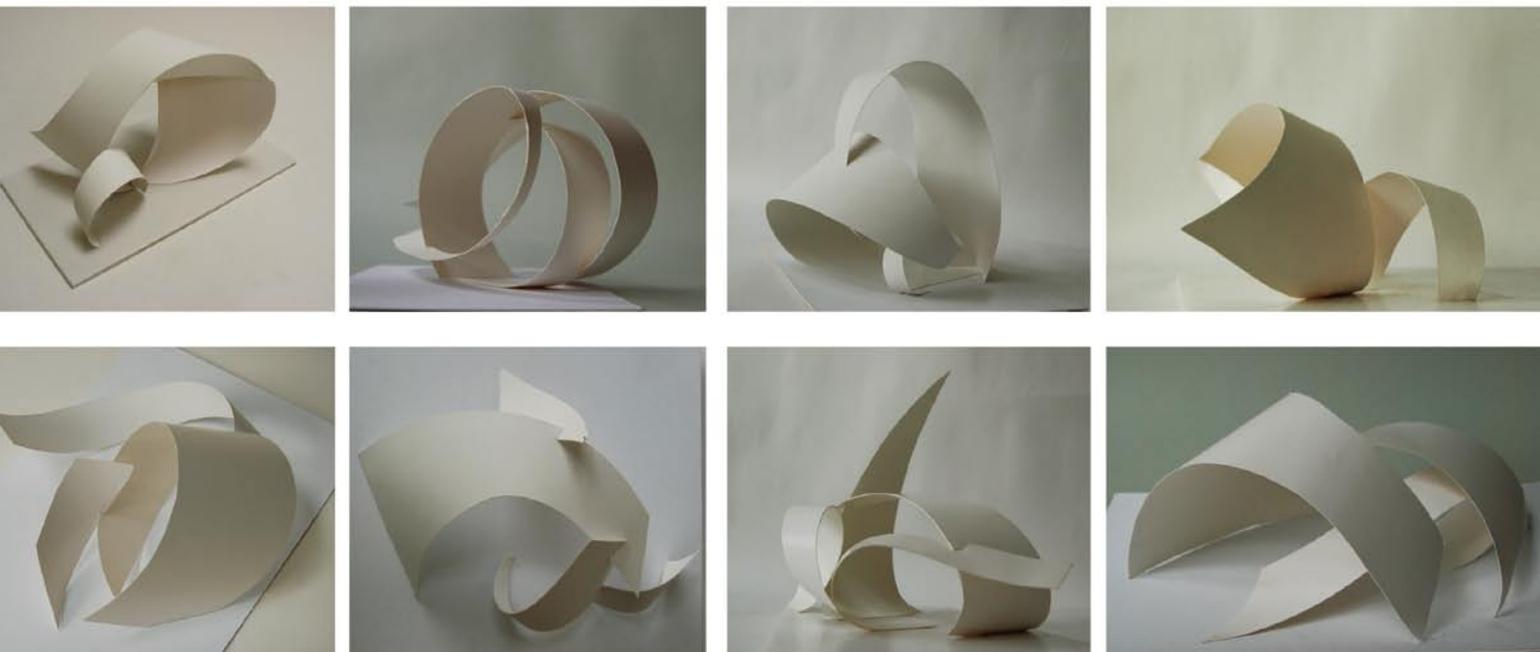
The combination another important characteristic is the space which the curved surface encircle and form. It pay attention to the space characteristic such as the opening, the closing, the flowing, the integrating, the division and so on. Those also are the important factors of curved surface combination.



“对曲面特征的理解，是对它们如何在空间产生相互关系的了解。经过反复的练习、探讨、思索，曲面能创造出优美的空间构成。从视觉上表达出某种情感，充分发挥你的才能和创造力。”

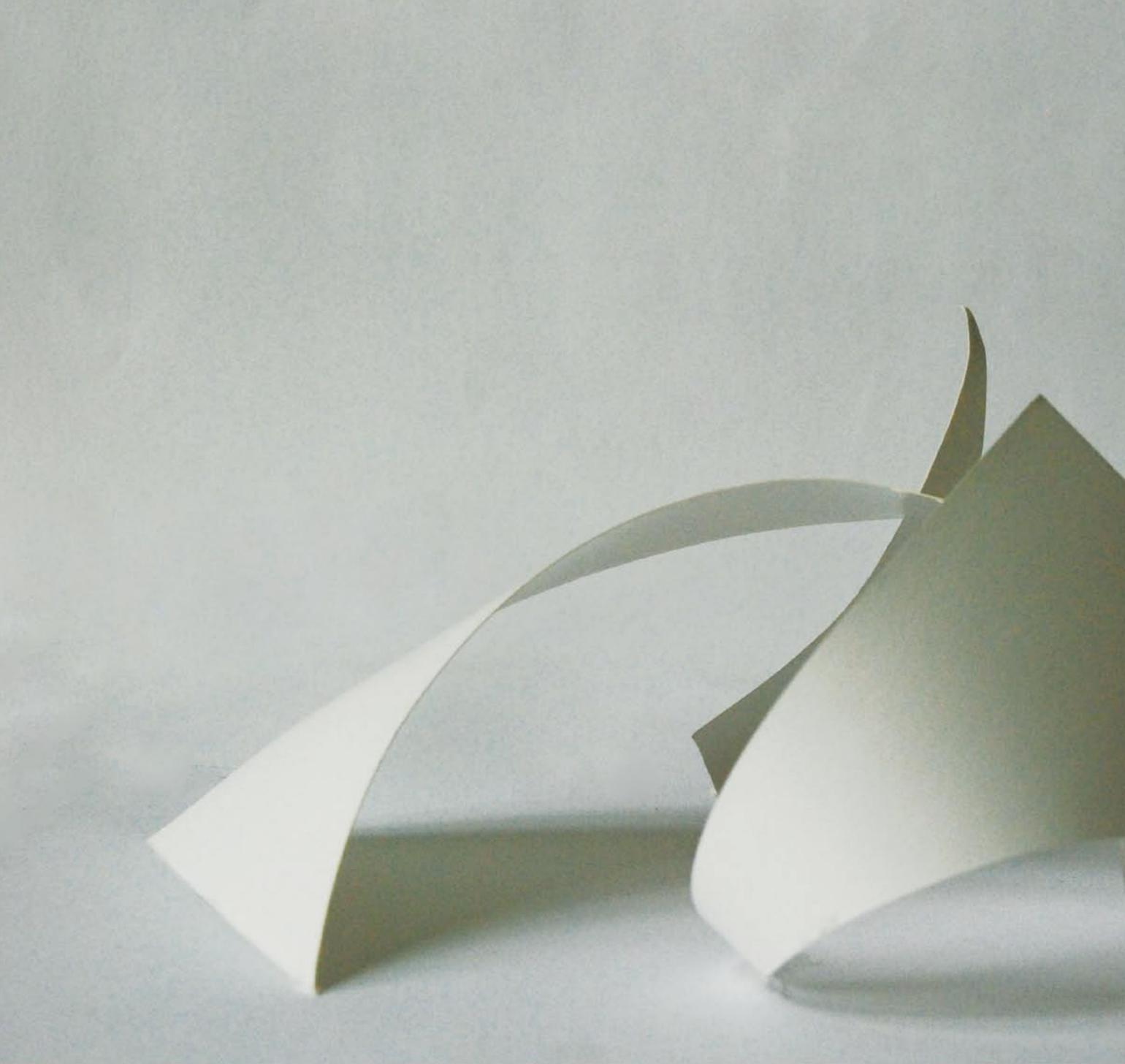
可以说即使用最简单的元素去发展，其造型的可能性也是无限的。但并非所有的造型都能被我们审美的视角所接受，其中存在着某些人与物之间的认知与体悟的规律在发挥着作用。在这一领域，目前我们还知之甚少，需要我们一直探讨和研究。





"The curved surface characteristic is their reciprocity in the space. After repeatedly practicing, discussing and thinking, the curved surface can create the exquisite spatial constitution. To express some kind of emotion in visual and display your ability and the creativity fully."

Its possibility also is infinite even though using the simple element. But not all modeling can be accepted by our esthetic angle of view, in which there are some rules which are between the thing and human of cognition are playing this role. In this domain, we understand very little at present, and need us to discuss and research continuously.



从造型元素分析，首先这个单元曲面曲度统一、轮廓特征统一，元素的结合方式也是统一的。轴线元素的组织上做了较大的变化。因此，作品呈现统一中的强烈动势。所以，在造型中真正发挥作用的是这些内在的视觉元素。当了解了视觉元素与效果之间的关系和规律，我们就可以调用一切视觉元素进行视觉构成，并达到理想的视觉传达效果和目的。

From the modeling elements, the unit curved surface curvature, the outline characteristic and the element union way all are unified. The spool thread element organization has made the big change. Therefore, the work presents moveing potential intensely in the unification. The true function is these intrinsic visual element in the modeling. When we understand the relations and the rule between the visual element and the effect, we may transfer all visual element to carry on the visual constitution, and achieve the ideal visual transmission effect and the goal.

“安东尼奥·高迪的建筑闻名世界，他的作品给我带来了很大的启发，天马行空的想法，大胆、充满想象的尝试。我手中只有几张纸片，要怎样才能让它们变得具有空间感呢？剪切、弯曲、穿插、衔接是我可以尝试的方法，对比例和特征进行实验，以发现这些形体的无限潜在的可能。曲面单元体轮廓和曲度的统一，允许我在轴线的方向上作各种不同的尝试，而不会使组合失去统一的感觉。我更多地专注于组合形成的整体动势与节奏，使其产生丰富的变化和强烈的动感。”

"Antonio-Gao Di's construction is well-known in the world. His work has brought the very big inspiration to me which is unconstrained style idea, bold and full of imagination attempt. How to be able to let these papers become have the sense of space in my hand? Cutting, curving, the alternation and the engagement are the ways which I may attempt. The infinite latent possibility of these physique can be discovered after carrying on the experiment to the proportion and the characteristic. The unification of curved surface's haploid outline and the curvature allows me to make any kind of different attempt in the spool thread direction, and it cannot lose the unification feeling. I have more concentrating on the whole moving and the rhythm which forms in the combination, then cause it to have the rich change and the intense moving feeling."





“每一个设计都不是凭空出世的，这些模型也一样，有它的内涵和故事，并且倾注了作者的热情与才华。对我来说，每一个作品都犹如我的孩子，对它的分析不再是我的关注所在，我喜欢用我的热情与耐性将一堆不起眼的纸创造出一个个生动的形体，在它们身上凝聚了我的灵感和对生活的感悟。”



一个富有美的形式组合，可以传达某些情感信息、引起观者某些情绪的变化，这是作者赋予作品的精神力量。但要使这些力量得以传递，被他人解读并体验，则需要一种人类普遍接受的视觉语言，这种语言我们能够感觉到它的存在，但还没有完全学会去驾驭和使用它。学习设计元素的构成，就像是在学习视觉语言的字、词、造句，本课题所涉及的仅是无限丰富造型元素中的几个，仅为开始。

元素特征的一致性使造型缺乏引起注意的信息，趋于静止形成和谐印象；元素的变化增加造型引起注意的信息，增加形态的复杂度，产生动荡不安的感觉。该作品轴线、轮廓的统一成为主导元素，仅对曲率进行了对比和变化，特别是垂直向上的带状单元与下面的弧形形成对比，增加了作品的生动性。



"Each design is not born baseless. These models are also at the same. They have its connotation and the story, and has been poured into author's enthusiasm and the ability. Each work just like my child for me. It is no longer my attention that is in its analysis. I like changing commonplace papers into vivid forms with mine enthusiasm and the patience. Their body condense my inspiration and aware feeling to the life."

A rich beautiful form may transmit certain emotion information and cause the view certain mood change. This is the author entrusts with the spiritual strength in the work. But it needs the visual language which the human can accept generally to make these strengths can be transmit, knew and experienced by other people. We can feel this language's existence, but still not learn to control and to use it completely. The study of design element constitution is like in the study of vision language character, the word, the sentences. This topic involves only several of infinite rich modeling element .It is just a start.

The element characteristic uniformity causes the modeling to lose the attentign information , tend to static and form the harmonious impression; The element change increase the attentign information, increase shape complexity and has the unstable feeling. The unification of the spool thread and the outline become the leadership element. It has only carried on the contrast and the change in the curvature, specially the contrast which the vertical upward belt-shaped unit forms with following arc increase the work vitality.

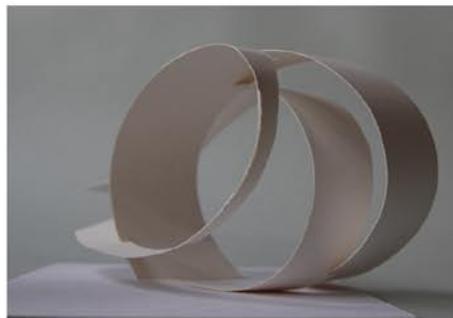






“直线属于人类，而曲线属于上帝。你能发现这是同一个作品吗？同一个作品在不同角度都有不一样的美！作品中轴线与轮廓的统一是该组合的主导元素，而曲面的摆放角度使组合在高度统一下产生生动的调节。这个练习的目的在于获得对曲面特征的理解和对它如何在空间产生互相关系的了解。这个课题练习的内容有二维平面和三维立体，都必须在视觉上表现出它们轴线运动的方向。要求我们用各种平面创造出优美的构成。较之前面的课题，它又更进了一步，多了些动态，但唯一不变的是它同样要表现出主导元素、次要元素、辅助元素三者的关系。只有通过理性才可以驾驭和控制这抽象的美，感性的表达才成为可能。”

"The element characteristic uniformity causes the modeling to lose the attending information , tend to static and form the harmonious impression; The element change increase the attentign information, increase shape complexity and has the unstable feeling. The unification of the spool thread and the outline become the leadership element. It has only carried on the contrast and the change in the curvature, specially the contrast which the vertical upward belt-shaped unit forms with following arc increase the work vitality."





### 课题三 曲面体

#### 课题提示

1. 曲面体的课题的重点是体会使个体差异较大的单元组合成为一个有机整体，这是一个大的挑战。
2. 与立方体的课题不同，动态的平衡是课题面临的新问题。
3. 体会如何利用组合的动势和韵律成为主导元素。
4. “多样性统一”原则在曲面体构成中的表现。

#### 课题要求：

1. 设计制作曲面体组合，单元形选择变化丰富，整体组合符合“多样性统一”原则
2. 数量：5组/人
3. 材料：雕塑泥、聚苯发泡塑料制作草模，聚氨酯或石膏制作正稿
4. 时间：2周

### Project 3 Curved Surface Object

#### Presentation

1. The key point is to experience that cause the great difference individual unit to become an organic whole. This is a big challenge.
2. Different with the cube topic, the dynamic balance is the new question which the topic faces.
3. To experience how to use the move potential and the rhythm to becomes the leading element.
4. How the principle of "The multiplicity to be unified" display in the curved surface body constitution.

#### Topic Requisition

1. To design and make curved surface body combination. The unit shape need change richly, The whole combination conforms to the principle of "the multiplicity to be unified".
2. Quantity: 5 sets/people.
3. Material: The sculpture mud, gathers the benzene foaming plastic --- grass mold, the polyurethane or the gypsum -- the manuscript.
4. Time: Two weeks.



区别于立方体课题，组合的单元形为差异性较大的几何形体，轴线的方向也不再垂直。如何构成具有统一感的形式并非一件容易的事。在此类形体的组合中主导元素依然是必要的，它是形成统一感的重要因素，只是在此，主导元素不仅仅是具体的某个物体，三个单元形体组织后的动态关系是其最主要的整体印象。所以，这个课题的关键是对单元体轴线的设计组合。

Distinguishing with the cube topic, the unit combination shape is big different geometry physique, the spool thread direction no longer is also vertical. It is not easy matter to how to constitute a unification feeling form. The leadership element in this kind of physique combination still is necessary, which is the important factor forming the unification feeling. This leading element is not only merely something concrete., Its most main overall impression is the dynamic relations after three unit physique organizing. Therefore, this topic key is design and combine haploid spool thread.



课题中依然延续主导元素、次要元素、附属元素的构成关系。轴线的设计要在三维空间内进行，而不应该使其在平面内进行，使相邻轴线的角度、长度及比例形成特有的节奏并符合你的感受。

The topic still continues the leading element, the secondary element and the attached element have constituted relations. The spool thread must carry on in the three-dimensional space, but not in the plane. To cause the neighboring spool thread the angle ,the length and the proportion form the unique rhythm and conform your feeling.





“我努力寻找这三者之间的最佳组合方式，使每个形体都放到最合适的位置，并使人看起来舒服。该作品的单元形体之间具有一种向心力，空间感强。”

造型选择上以圆形为主，只有一条直线，本身具有较强的统一性，所以组合中轴的作用并不十分突出。造型中发挥作用的依然是前面课题中的主导元素、次要元素、辅助元素的关系。

"I seek diligently the optimal fit way among these three to cause each physique can be put to the most appropriate position. This look like comfortably. The unit physique in this work has centripetal and strength space sense."

It is circular primarily but only a straight line. Itself has the strong unity. Therefore in combine the function of the axle is not extremely prominent. In the modeling the relations still play the role among the c leadership, secondary, the attached elements.

随着造型单元造型的复杂性的增加，造型元素也变得复杂起来，处理它们的组合就要更加谨慎，平衡它们之间的关系更加重要。决定作品的主导元素并非是其中的某个形体，而是每个单元体都具有的弧形轮廓。其中的直线和平面成为次要和辅助的元素。主导元素由具体单一的形体转换为一种主导的视觉特征。

Along with the modeling complex increasing, the modeling element also becomes complex.

So we should be balance carefully between them when processing their combination.

The leading element deciding the work is some physique by no means, but is the arc outline which each haploid all has. The straight line and the plane become secondary and the attached element. The leading element transforms from the sole physique to one kind of leading visual characteristic.



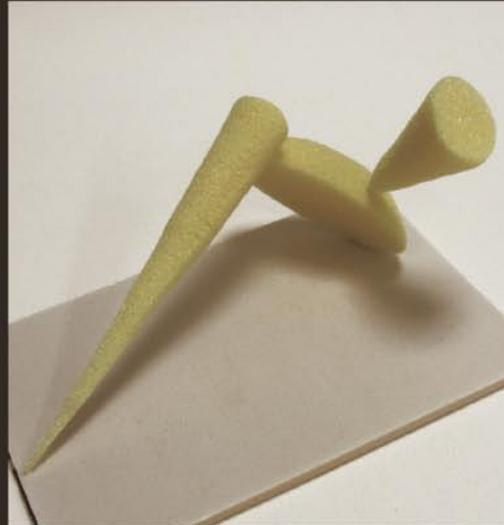
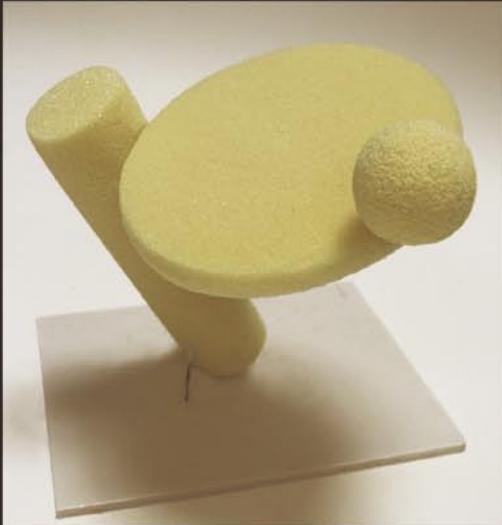


这些组合中单元体形状差异大，固有比例和相对比例都有很大的反差，缺少统一的元素。此时要将其组合成一个有机的整体，就要借助它们的相互位置和角度形成一个相互依存的视觉和空间结构，紧密依赖的力的关系。同时，必须使每种组合具有唯一性，并能引起观看者的兴奋和共鸣。在此类造型单元体的构成中，轴的长短、方向、相互的角度以及空间的位置就成为统一的主要要素。它们可以引导人的视线运动、停留。轴的设计几乎是组合的全部





In these combinations, the haploid shape have big difference and the inherent and the relative proportion all have the very big contrast. They lack the unified element. If combining it a whole organic, we must draw support from their mutual position and the angle to form the vision and the spatial structure which depends on each other mutually and close, dependent and strength relations. At the same time, it must enable each kind of combination uniqueness and can cause the viewer excited and sympathetic. In this kind of modeling haploid constitution, the axis' length, the direction, the mutual angle as well as the spatial position become the unification main factor. They may guide human's attention and stay. The axis's design is nearly the all.



“我选择了一个修长的圆锥体做为该作品的主导元素，并通过调整它的比例使其显得强而有力，另外两个小的形体与主导元素在轴线方向上形成强烈的对比。它就像一位舞蹈演员在空中暂停片刻，整个作品具有一种跳跃的节奏和韵律。”

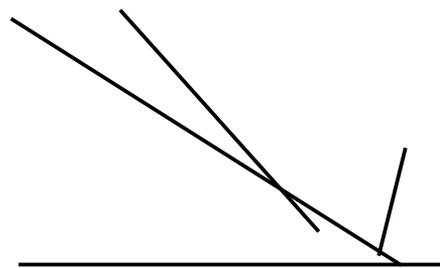
"I choose a slender cone for this work to do the leading element and through adjusting its proportion to cause it powerful. The other two small physique and the leading element form striking contrast in the spool thread direction. It looks like a dancer suspending moment in air. The entire work has one kind of caper rhythm."

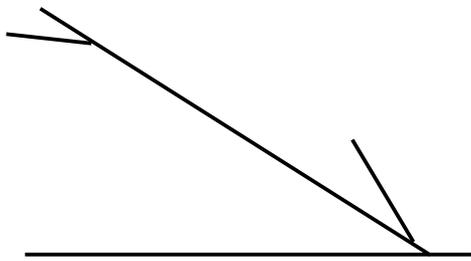




“在这个作品中，我使每个形体的轴线都处于不同的运动方向，并且选取了个性特征不同的单元形体。我想发展出一种视觉结构，使各个轴线、重心、表面之间更具有张力。”

"In this work, I causes each physique's spool thread to be in the different direction, and selects the differently individual characteristic unit physique. I want to develop one kind of visual structure, it enable among the spool thread, the center of gravity and the surface to have the tensity."





主导元素、次要元素、附属元素形状的选择生动有趣，轴线长短对比、方向错落有致，动静相宜，构成轻盈而优雅的视觉结构特征。

Leading element, secondary element and attached element are vivid and interesting in shape. The spool thread is length contrast, the direction uniform and movement appropriate. It constitutes lithe and graceful visual structure characteristic.

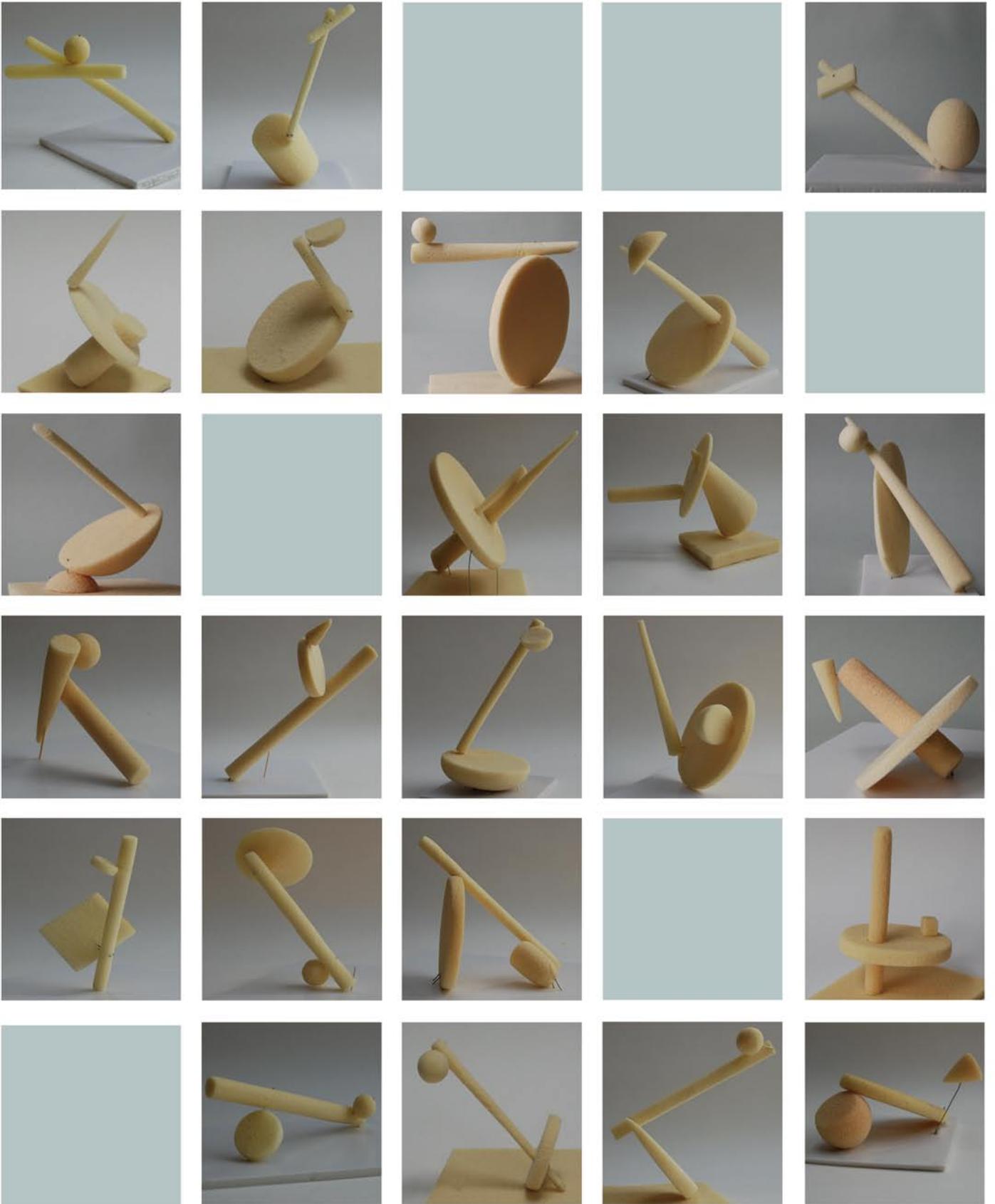
“在做这个课题的过程中，我们不仅要考虑到形体之间的体积、比例、个性，而且还要面对一个额外的挑战——斜轴线。这不是一个容易的过程，当你全身心的投入到那个过程中时，你会发现很多有意思的构成方式，并且得到很宝贵的经验，原有的不知所措的感觉也慢慢的消失。”

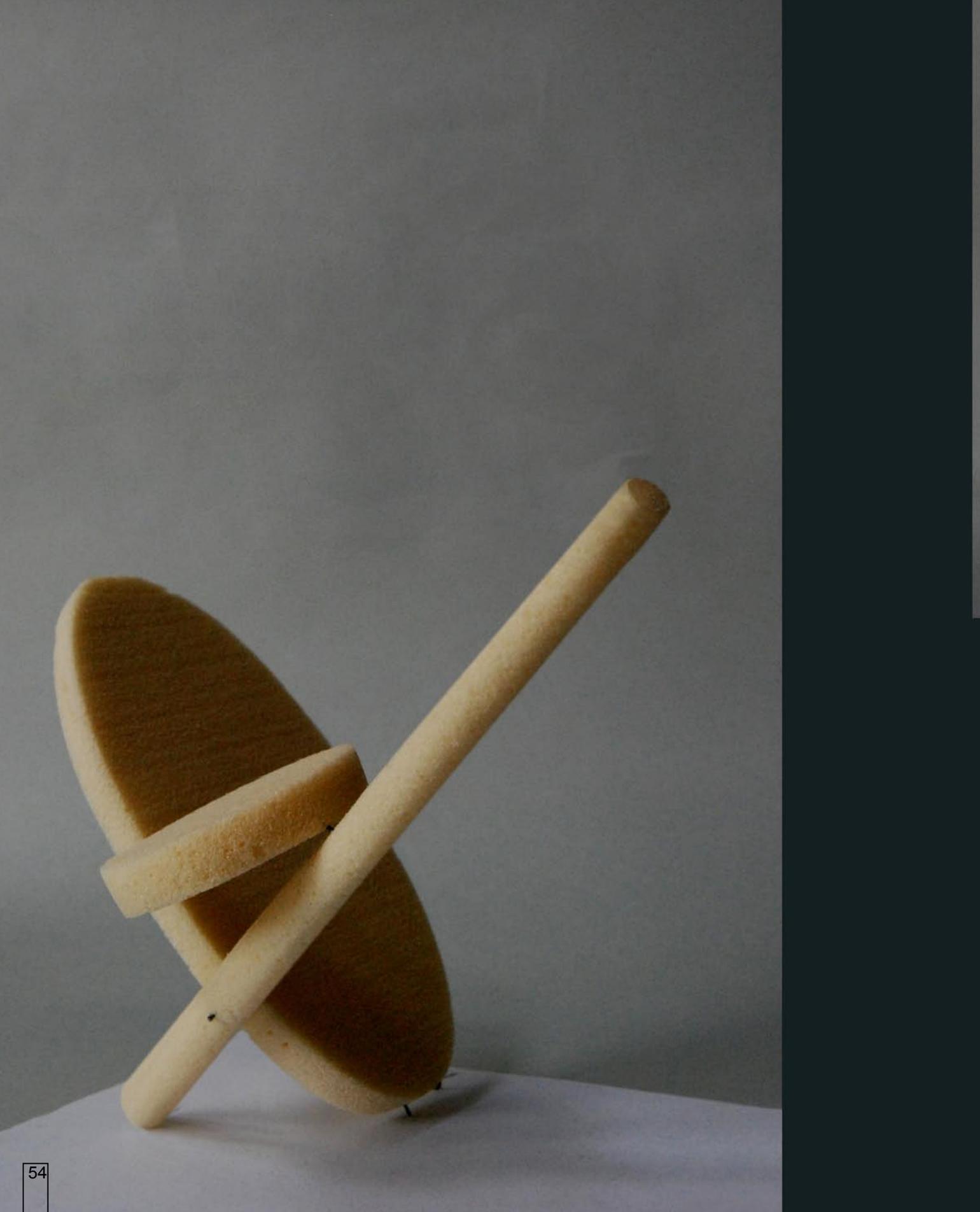
"In this topic, we must not only consider the body block, compared to the row and the individuality, moreover must face an extra challenge - - slanting spool thread. This is not an easy process. when you devote that process , you will discover many interesting constitution ways and obtain very precious experience. The helpless feeling also vanishes slowly originally."

大量的练习实验是必不可少的。预先制作好各种形状、大小不等的形体备用，尽可能多的尝试不同的组合方式，你的眼力就会变得敏感和挑剔，你会清楚感受到随着形体形状、比例、位置、角度的慢慢调整，构成作品“表情”的改变。

The massive practice experiment must be essential. At first you must manufacture each kind of shape and different size physique ,then try you best to attempt different combination way, finally your eyesight can become as far as possible sensitive and nitpicks. You can feel clearly along with the physique shape, the proportion, the position and the angle adjusting slowly and "the expression"changing.









“我注意调整了在我的作品中存在的空间的体积、轴线、运动和静止，我试着让形体周围以及形体之间的空间活跃起来。我尽量使每个方向的力得到平衡并且尝试不同的连接方式。细长的圆柱体指出了明确的方向，大的圆盘被其定位，小的圆柱体是两者间的视觉过渡和缓冲，也是组合的微妙之处。”

"I note the spatial volume, the spool thread, the movement and the static which exist in mine work. I try to diligently let the space enliven between the physique as well as the around physique. And I enable as far as possible each position force to obtain the balance and attempt the different connection way. The tall -slender circular cylinder pointes out the explicit direction and localizes the big. the small circular cylinder is both visual transition and the cushion, also is the subtle combination."





“在这个过程中，我尝试了不同的组合，发现了许许多多不同的构成方式，每个构成都有它自己特有的个性，这是一件很有意思的事。”作品在单元形体选择上各具特点，在组合上恰当地处理了动态平衡，但不足之处是从不同的角度观察其效果的差异性不足，也就是构成的三维构造感不强。

"In this process, I has attempted different combination and discovered many different constitution way, each constitution has its unique individuality. This is very interesting."

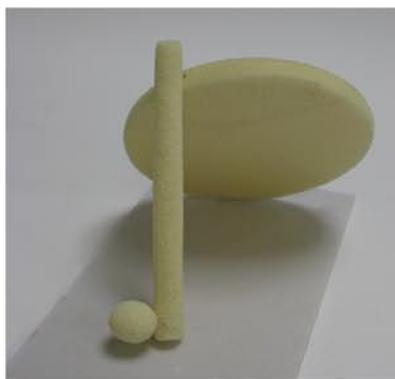
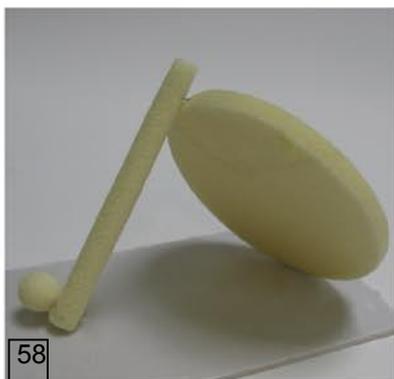
In the work the each unit physiques is characteristic and in combination appropriate processing dynamical equilibrium. But the deficiency is the difference is insufficient observed from the different angle. So three dimensional structure feeling is not strong.

“在做这个作品时我选择了三个固有比例差异较大的形体，我尝试了许多不同的连接方式，努力使每个形体都放到最合适的位置。我从不同的角度观察它，发现它在每个角度都有独特的个性。

作品在元素构成过程中存在着一些明显的不足，单元形体形状固有比例差别较大，但相对比例不理想；在构成关系上三个形体都落在基座的平面上，几乎处于静止平衡状态，整体比例过于均衡，缺少令人兴奋的视觉张力；三个单元形体的相互依存的关系不够紧密。所以，一个完美的构成所涉及的因素是多方面的，必须细心的对待，并且不断提升视觉的敏感性，以便作出客观的评价和分析。

"Making this work I choose three physiques whose inherent proportion are very different. I attempt many different connection ways, cause diligently each physique to put the most suitable position. And I observe it from the different angle and discover it has unique individuality in each angle."

The work has some obvious insufficiencies in the element constitution . The inherent proportion of the unit physique shape is big difference, and the relative scale is not ideal. Three physique all fall in the base plane in the constitution relations. It is at the static state of equilibrium nearly, the overall proportion is too balanced. And it lacks the rousing visual tensivity. The interdependence relations of three unit physique are under tightened. Therefore, a perfect constitution involving factors must be treated carefully. It can promote unceasingly your visual sensitivity and then you make the objective appraisal and the analysis.





体积、面积、轴向、形状、比例.....等造型元素都会作用于人的视觉而形成视觉特征，将每种元素特征的强度放大，就可以成为一个构成中的主导元素，发挥主导的视觉作用。此课题中关于周的练习，选择比例细长，具有明确方向性的形体在个元素中特征最为鲜明，也最容易成为视觉的焦点，所以成为构成的主导元素。

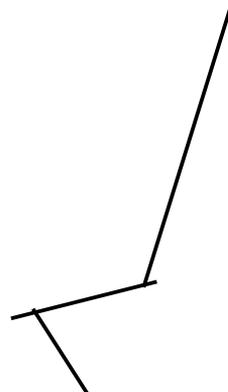
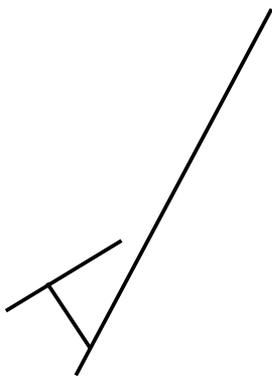
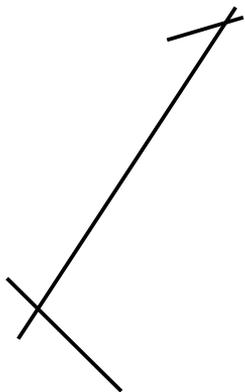
Volume, area, axial, shape, proportion..... the modeling elements can affect the vision to form the visual characteristic. If a element characteristic intensity are enlarged, it may become the leading element in a constitution then display leadership visual function. In this topic, the physique which has slender proportion and clear direction is brightest in elements and easiest to become the focal visual point, therefore becomes the leading element.



作者选择固有比例、形状特征反差较大的单元形状作为构成的元素；整体比例上强调了向上的动势；扁方体的一角和倾斜圆柱体相互支撑，形成了动态的视觉平衡关系；主导、次要、辅助的关系明确。略感不足的是，辅助元素球体中心与整体中心基本处于同一平面，如能偏离中心，取其依赖性平衡，构件之间的关系更将紧密，构成的整体感和立体感将会得到加强。

The author chooses the unit physique shape which has great contrast in inherent proportion and shape characteristic as the constitution the element. In the whole proportion it emphasizes upward moving potential. The flat square's corner and the inclined circular cylinder supports mutually and forms the dynamic visual balance relations. The leadership, secondary and the attached element relations has been clearly. It is insufficient that the attached element -spheroid center and the overall center are in the identical plane. If it can be out of center and take its dependence to be balanced, the component relations will be close and the associative perception and the three dimensional feeling will be able to obtain the enhancement.





“当自己不能将它做的更好时，我会停下来仔细想想，是哪里出了问题？怎样才能将它做得更好？”

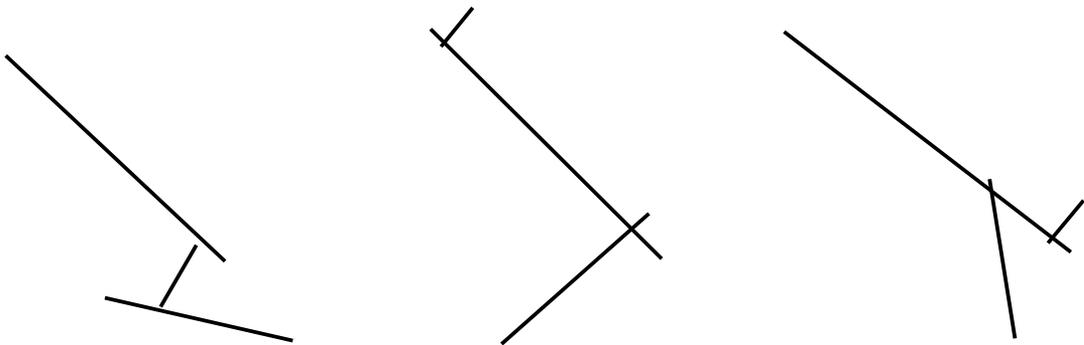
这一组构成作品从整体看质量是比较好的。从整体比例到固有比例的选择、轴线的布置都形成其自身独特的结构。

在这些课题练习中，我们淡化了主题的表现，将注意力都集中在视知觉对造型形式的反应上。在此基础上根据构成的形式和自身的生活经验自然会联想起相应的表现主题。

"When I cannot do well it by myself, I can stop to think carefully that where the problems are and How I can do well it?"

The set of works look that the quality is quite good. From overall proportion to inherent proportion and the spool thread arrangement form own unique structure.

In these topics, we desalinate the subject and focus the attention on the response that vision consciousness form in the modeling. It can associate with performance subject naturally in this foundation according to the constitution form and own experience of life.





## 课题四 凸面

### 课题提示

1. 课题研究凸面这一单一的造型元素的构成特征与规律，是之前涉及的各种构成规则的另一种表现。
2. 课题涉及的曲面体均限制为有机形态。
3. 凸面体各部分轴线的的作用，轮廓线的效果。
4. “多样性统一”原则在曲面体构成中的表现。

### 课题要求

1. 设计制作凸面体组合，特征突出，体积感强烈，整体组合符合“多样性统一”原则
2. 数量：5组/人
3. 材料：雕塑泥、聚苯发泡塑料制作草模，聚氨酯发泡
4. 时间：2周

## Project 4 Convex

### Presentation

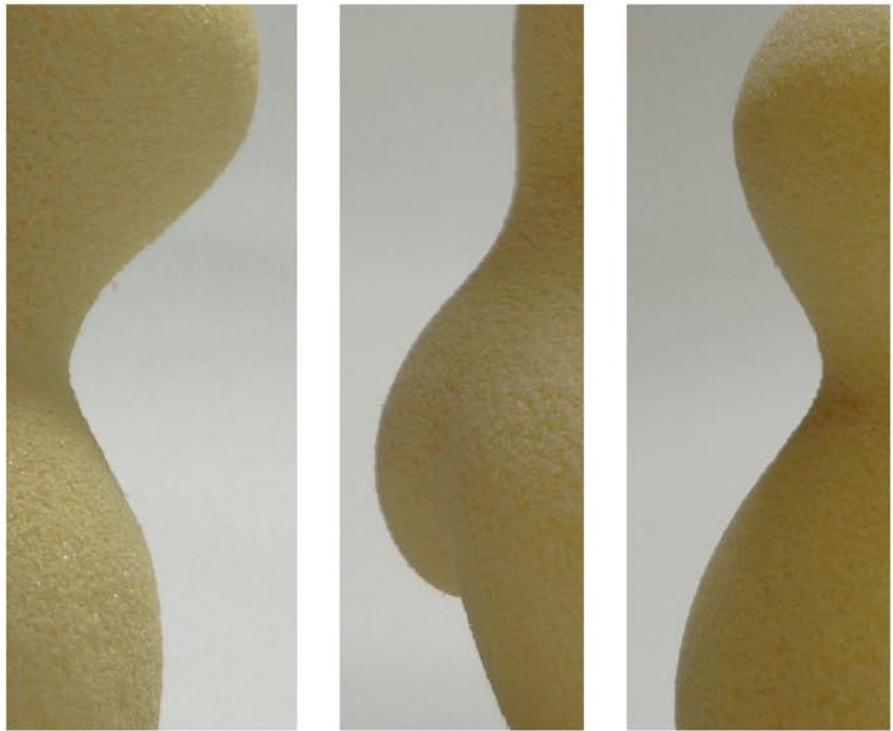
1. The topic research the constitution characteristic and the rule of the sole modeling element —convex. It is another kind of performance that involves each kind of constitution rule.
2. The topic involves the curved surface body limited an organic shape.
3. Convex body various part of spool thread function, contour line effect.
4. The principle —“the multiplicity is unified” display in the curved surface body constitution.

### Topic Requisition

1. To design and manufacture convex body combination to cause The characteristic to be prominent, the volume feeling be intense and the whole combination conform to "the multiplicity to be unified".
2. Quantity: 5 sets/people.
3. Material: The sculpture mud, gathers the benzene foaming plastic --- grass mold, the polyurethane or the gypsum -- the manuscript.
4. Time: Two weeks.

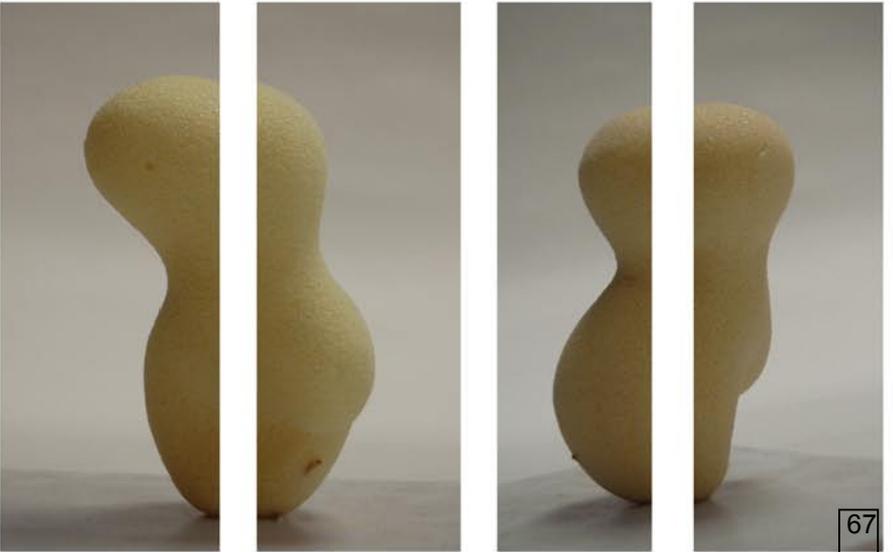


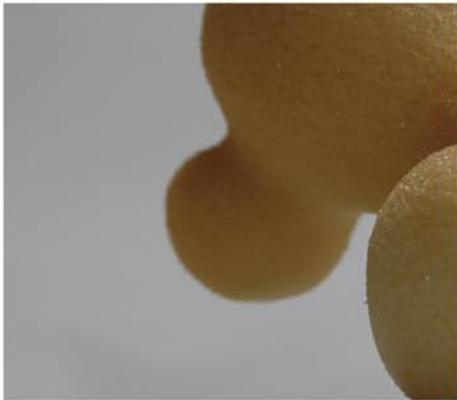
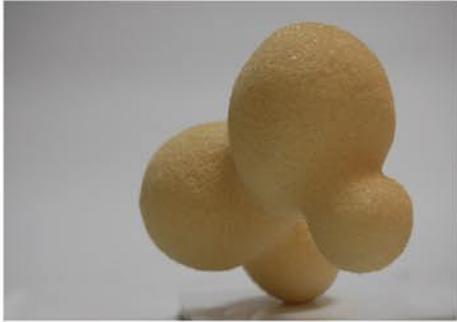




“这个作品具有优美的曲线，轴线与轮廓变化微妙，温和而安静，尤其是从局部的角度和不同的视点去观察这个形体，我们会有很多有趣的发现。这是我们第一次接触聚氨酯这种材料。在用这样一种只能‘减’，不能‘加’的材料来制作形体前难免会感到有些惶恐。先以画草图的方式来探索自己心中的形体，用夸张的或者戏剧化的手法来表现这种感觉。不要吝惜你手中的聚氨酯，经过反复的雕刻与打磨，它就逐渐在我的眼前清晰起来。”

"This work has the exquisite curve. The change between the spool thread and the outline is subtle, temperate and peaceful. In particular, observing this physique from the partial angle and the different viewpoint, we can have very many interesting discoveries. This is our first contact polyurethane. We feel unavoidably somewhat terrifying in using such one kind that can only "to reduce", not "add". Firstly, you can explore your heart physique by the schematic picture, then display your feeling with exaggerating or the dramatization technique. Do not stint the polyurethane in your hand. Passing through carving and the polishing repeatedly, it is clear at present in me gradually."





“聚氨酯发泡塑料这种材料，要求我们慢慢地制作，每个形体都要反复的推敲和修改，否则会把每个部位制作得很小，因此只有通过制作多个草模才能制作出我们想要的体态。当然，我们也应当注意，当我们没有确定各部位的空间关系时，不应当操之过急地进行细部的加工，在整个制作过程中给予了我们仔细观察的机会，给予了我们去观察形体之间力的传递、空间的呼应及细微变化的机会。”



"Polyurethane foaming plastic characteristic requests us to manufacture slowly. Each physique must deliberate and revise repeatedly, otherwise it will be manufacture very small. Therefore the only way to manufacture what we want is that pass through manufacturing many grass mold .Certainly, we must also pay attention that we should not carry on the detail processing hastily when we have not determined the spatial relations among various spots. This entire manufacture process has given the opportunity which we can observe carefully, observe slight change of the strength transmission and the space echo which between the physique."



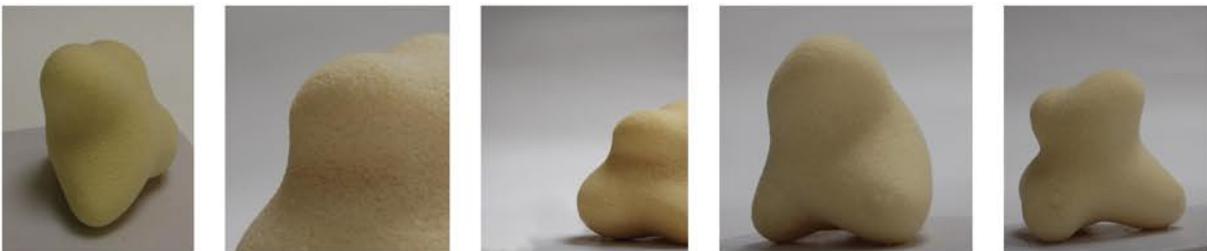


“作品主次对比鲜明，体块的轴线方向与力的组织灵活而有变化，从而产生活泼的视觉效果。当我们审视作品时应该从形体的前面到后面，从顶部到底部，从不同的视点去观察、去感受视线穿过体块及表面的运动。”

"The work's primary and secondary contrast is bright. The body block's spool thread direction and the strength organization are nimble and changing. Then it produces lively visual result. When we examine carefully the work we should observe from physique front to behind, from the crown to the base and from different viewpoint to observe and feel the sightline movement traversing body block and the superficial."

“刚刚开始做的时候，我总是把形态做得特别复杂。通过逐步和老师同学交流才发现繁杂的组合并不是表现个性的最佳渠道，反而会丢失或者掩盖了一个组合的个性。当我千方百计的想怎样做才能使物体的线条更加漂亮时，极为复杂的表面线条反而失去了连贯性和整体性。好的视觉作品往往是在单纯中突出表现其个性的。我觉得最后一个作业是最难的，因为你很难想象你做出来的是什么效果，面对着一块方形的聚氨酯，真不知道该如何下手。真切的体会到想与做的差别，同时让我认识到了设计与艺术的差别：设计不仅仅源自灵感，而更多的是对每一件作品的理性分析，了解它们的规律并能够灵活应用。”

"I always make the shape specially complex at the beginning. Through exchanging gradually with teacher and schoolmate, I discover the numerous and diverse combination is not the best individuality performance channel, instead of losing or covering the combination individuality. When I try any means possible to cause the object's line more attractive, the extremely complex superficial line has instead lost the continuity and the integrity. The good visual work often displays prominently in pure individuality. I think the last work is the most difficult, because you are difficult to imagine what effect the work are. Facing the square shape polyurethane, I really do not know how to start. I experience clearly the thought and does are different, simultaneously it let me realize the design is different to the art. It not merely source from inspiration, but more is rational analysis to each work then understand their rule and apply nimbly. "









作品特征鲜明，有较强的组合规律，轴线关系清晰明确，形体给人以跳跃、动态的情趣感受，而且从不同的视点来观察这个形体会会有丰富的变化。

The work characteristic is bright and has the strong combination rule. The spool thread relations is clear , the physique appeals jumping and dynamic feeling for the human.

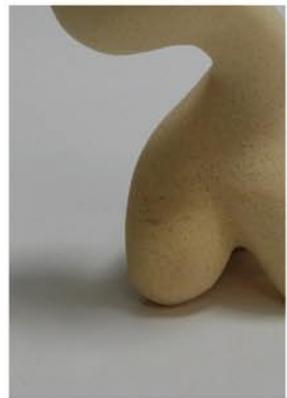


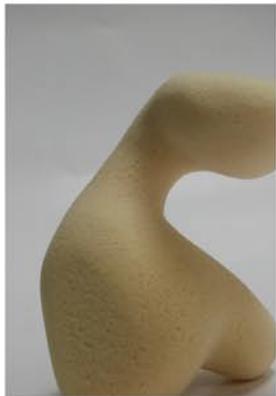
“凸面课题给我的感觉是创造一个可以引导我们的视线以不同的节奏、速度不断流动的连续不断的表面，同时给我们带来或轻松或跳跃的不同体验。主导元素在这里可以是体积或质量的优势，也可以是引人注目的突起。特别是当我们转动它时会引起完全不同的变化。当我们创造出来一个形态之后，还需要通过摄影把该形态表现出来，这是一个从空间到平面表现的一个过程，我选择了它最能打动观众的角度。”

"The convex topic is to create one unceasingly flowing surface for my feeling which can guide our sight continuously by different rhythm and speed ,simultaneously brings either relaxed or the caper different experience to us. The leading element here may be the amount of space occupy superiority also may be noticeable prominence. Specially when we rotate it that can cause the completely different change. After we create a shape out, it needs us use the photography display this shape else. This is one process from the space to a plane performance. I chose the most moving audience's angle."



任何作品都存在它的可取之处和它的缺憾，它形体生动与戏剧性的表现打动了许多观赏它的人。但偏于具象的同时也局限了它的表现力。这个课题主要还是训练我们把握形体的能力，探索决定形态视觉特性的各要素之间的关联。方向、比例、轮廓。我们需要表现的形体不单单应该偶然存在，还应该是强而有张力的，具有抽象的美感。你越是投入到这个课题，它就越能帮助你提高对形体的敏感性。





The work has its good point and its disappointment. Its physique is vivid and theatrical which move many appreciator. But it is in favor of the embodiment which limit its expressive force. This topic mainly trains us the ability to grasp the physique, the explore the connection, the direction, the proportion and the outline among various essential factors which decide the shape visual characteristic. The physique we need display is not solely existent accidentally, but also is strong and tensitied and has abstract esthetic sense. You more invest this topic, it more can help you to enhance your sensitivity to the physique.



## 课题五 重构

课题提示：

1. 将完整的几何形态通过切割的方式分解为3~4个部分，并以新的方式重新组合，创造新的独特构成。
2. 切割的过程即是重构的开始，不同的切割方式所得到的形态特征不同，直接影响其组合的效果。
3. 综合考虑前面课题涉及的设计规则。
4. “多样性统一”原则在曲面体构成中的表现。

课题要求：

1. 设计重构几何形体，制造独特视觉体验。整体组合符合“多样性统一”原则
2. 数量：5组/人
3. 材料：雕塑泥、聚苯发泡塑料制作草模，聚氨酯或石膏制作正稿
4. 时间：2周

## Project 5 Restructuring

Presentation

1. The complete geometry shape is decomposed into 3-4 part through cutting, and combine by new way, then make the new unique constitution.
2. The cutting process is the start of restructuring. The different cutting way obtains the different shape characteristic. It affects its combination directly.
3. Considering the design rule which the topic we had involves.
4. "The multiplicity is unified"perform in the curved surface body constitution.

Topic Requisition

1. To design restructuring geometry physique, to make the unique visual experience, conforms to "the multiplicity to be unified" the principle.
2. Quantity: 5 sets/people.
3. Material: The sculpture mud, gathers the benzene foaming plastic --- grass mold, the polyurethane or the gypsum -- the manuscript.
4. Time: Two weeks





“我想象把作品无限放大，再放大，放大到1000倍。原本巴掌大的聚氨酯模型仿佛成了一幢幢巨大的实体建筑。我可以看见它的每一个角落与细节，发现它的缺点与瑕疵，可以从仰望的角度欣赏它，发现与众不同的魅力。”

作品从一个立方体开始，以直线切割的方式得到了形态、相对比例接近，变幻与组合的语法单纯-移动，体块与空间疏密有致，造成了一种轻松、简单、随意的视觉印象。顶部的梯形单元与下面单元的错位关系形成了作品的亮点，是平淡中的一抹亮色，虽然简单但却至关重要，使作品焕发了生机。

"I imagine the work is enlarged infinitely, again enlarged, enlarged to 1000 times. The polyurethane model is like palm of the hand as if it has originally become a flickering huge entity construction. I may see its each quoin and the detail, discover its shortcoming and the slight defect. I may appreciate it from the angle which looks up to and discover the out of the ordinary charm."

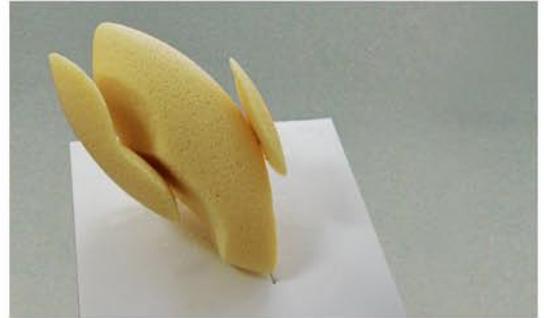
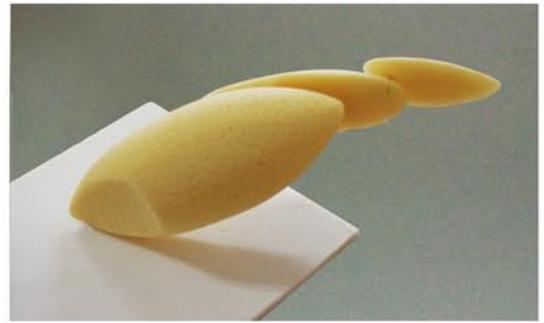
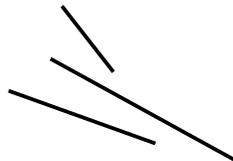
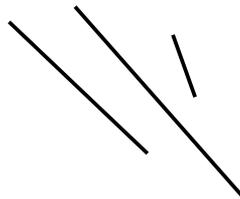
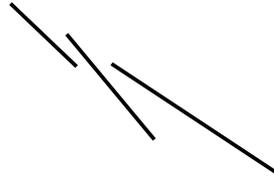
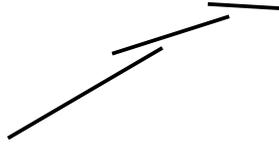
The work starts from a cube, obtained the shape, the relative scale by straight line cutting has been close, fluctuates with the grammar pure - migration which combined, the body block and the spatial density has sends, has created one kind with ease, simple, at will optical impression. The crown trapezoidal unit has formed with following unit dislocation relations in the work luminescent spot, as soon as is light wipes the bright color, but although simple actually very important. Was the work has glowed the vitality.





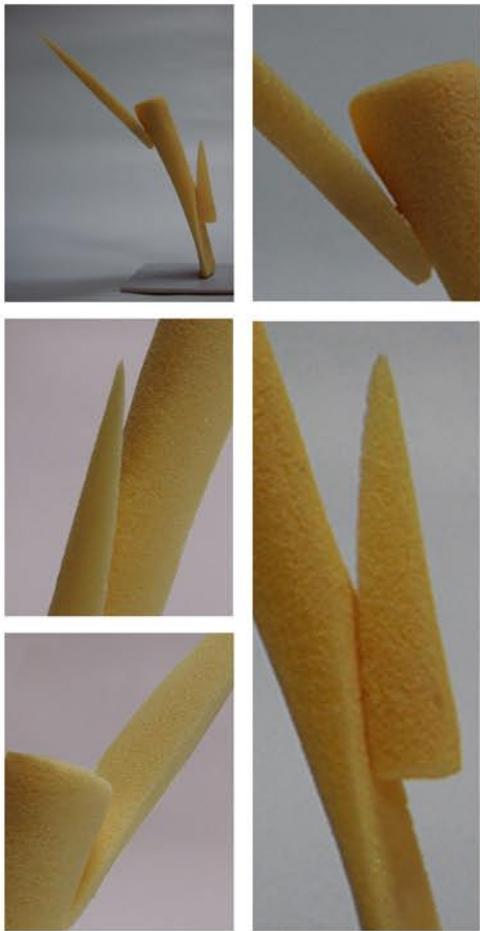
这是一个特征鲜明，极富节奏和韵律的构成作品。由橄榄球形切割得到的四个单元性格相近，通过排列的节奏调整，多样性统一的尺度平衡于静动之间，令人印象深刻。作品主要是通过对轴要素的作用组织构成作品的。

This work have bright characteristic and rich rhythm. Four units are close which obtain by Chinese olive sphere cutting. Through the arrangement rhythm adjustment, the multiple unification criterion balanced and calmly moves. Is been profound the human impression. The work mainly constitutes the work through the countershaft essential factor function organization.



“切割组合重构是个反复有趣的过程，每次移动作出一个变化，它就会给你反馈，使你的眼里和心里的某处被触动。这种对话是美妙的。这个作品让我有极端的想象，我希望创作出一种极限的感官享受，让人产生伸展与呼喊的欲望。我想表现那种安静后的张扬，仿佛暴风雨前的宁静过后却风卷残云。所以从不同角度观赏它，发现它时而安静，时而却突破空间向外极力伸展，领悟角色的瞬时转换奇妙而有生命力。”

"The cutting and combining is a relapsing restructures and interesting process .It is the process the object converses and games with me. It can give you to feed back that can touch your heart somewhere when you makes a change though moving each time. This kind of dialogue is wonderful. This work lets me have extremely imagination. I hope to create one kind of limited enjoy by the sense organ. It lets the human have the desire to extent and shout. I want to display that kind of blazing after quiet. Therefore it is sometimes peaceful , sometimes actually breaks through the space outward to extend vigorously when you watch it from the different angle. The role switches instantaneous ,is marvelous and has vitality."

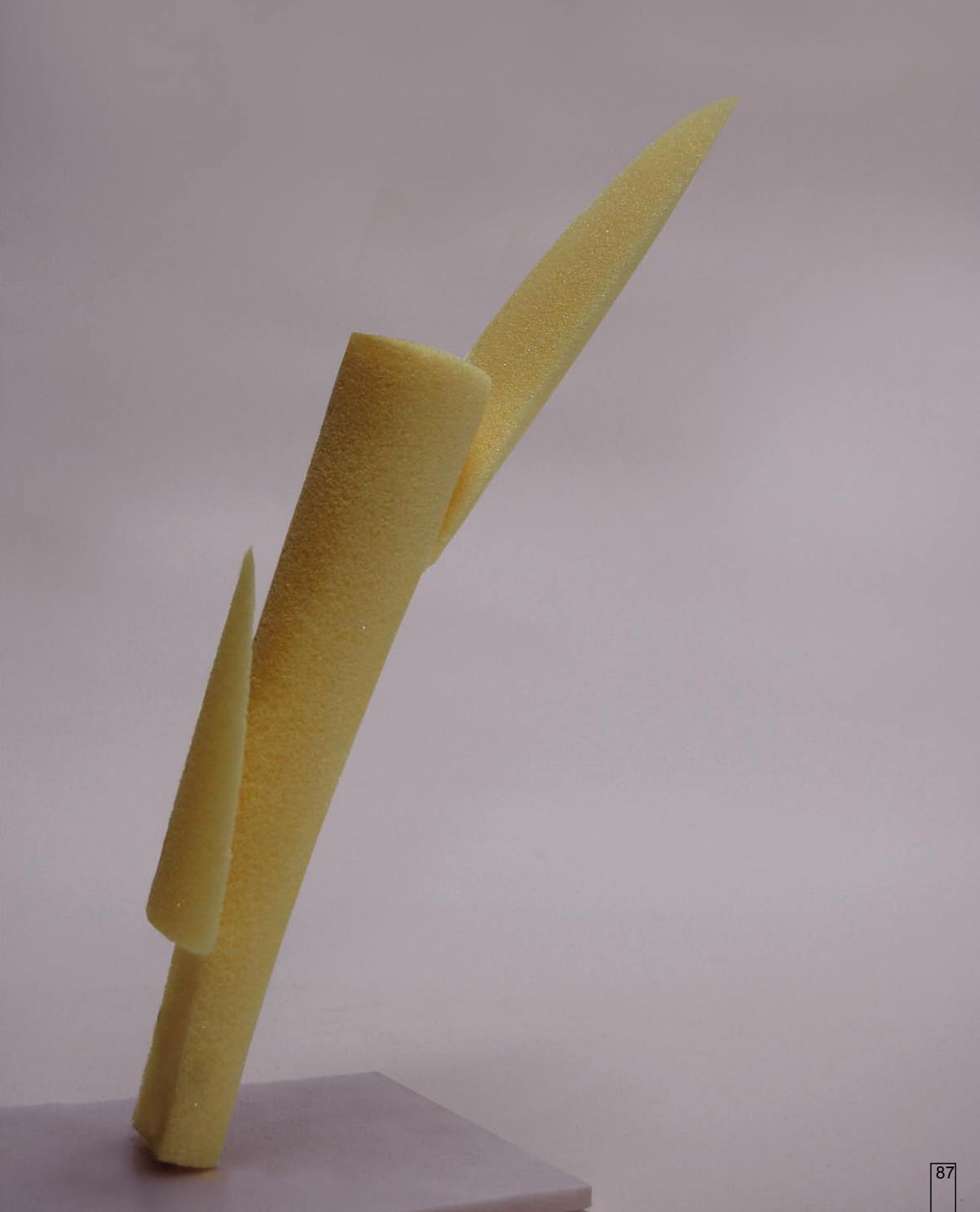


“当这个作品完成并呈现在眼前的时候，我感受到一种内在的生命力。外表温和、秀美，孕育着蓬勃的生机与力量。”

作者以微微弯曲的面切割圆柱体得到了一组带有优美弧面的楔形单元形体。组合时有意强化了这一曲面的动势，并形成作品最为核心的视觉特征，强烈而明确，如作者所说，充满了生命的力量。作者根据单元形体的特征，利用轴的要素和主导元素、次要元素、附属元素的关系组织构成。略感不足的是作品的三维特性，在多个角度观赏期丰富性略显不够。

"When this work is completed and presented before me, I receive the moving which is one kind of intrinsic vitality. Its semblance is temperate and elegant but breeds the vigorous vitality and strength."

The author obtains a group of wedge-shaped unit physiques which have the exquisite cambered surface by cutting circular cylinder with the curving surface. The moving potential of this curved surface is strengthened when combining, and forms the most main visual characteristic which is intense and clear. As if the author said, it is full of the life strength. The author acts according to the unit physique characteristic, using the relation between the axis and the leading, the secondary and the attached to organize and constitute the physique. The three-dimensional character is insufficient slightly whose rich reveal slightly insufficiently in many angles.





“完成一件能让人满意的作品真不是一件容易的事，这需要不断的修改，反复的斟酌。使人一度想放弃却又不甘心。生活是平淡的，创意的过程也是如此，需要足够的耐心与坚韧才能最终冲破思维的障碍，展现新的辽阔天空。”

作者很好地处理了变化与统一的平衡，既给人整体统一的印象又不失生动鲜活的个性特质。其中，侧面分割出的薄片和顶部形体在组合中使出，作者已经能够利用各种造型要素的特征进行理性的分析并达到令自己满意的效果，这是一个难得的进步。

"It is not really an easy matter to manufactures one satisfying work. It need to revise unceasing and consider repeating. I once wanted to give up but not be resigned to. The life is light, as so the creativity process is. It need enough patient and tenacious then finally break through the thought barrier to unfold the new vast sky."

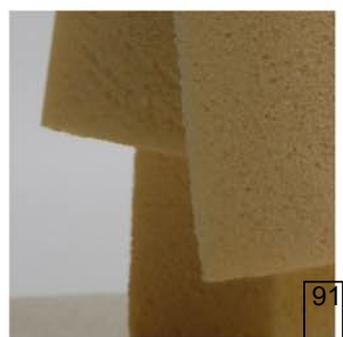
The author processes the balance between change and the unification very good. It shows namely the whole unification impression and not lose the vivid bright individuality characteristic. the thin slice divided from side and the crown physique are the attached element and play the vital role in the combination. From the work we can conclude that the author already could use each kind of modeling factor's characteristic to carry on the rational analysis and to achieve satisfying effect. This is a rare progress.





圆柱体虽然经切割后形成的单元形体丰富而多样，其堆积叠放的次序及其相互的呼应关系，并没有使我们看上去产生杂乱的感觉，层叠的形体通过交叉楔入，使其紧密地连接为一个整体，形成一种机理，虽没有体积上的绝对差别，圆形与半圆形带来的变化与对比效果使得作品在形状要素上产生了主导、次要与辅助的内在逻辑和秩序，依然符合“多样性统一”的规律。

"The unit physique is rich and diverse after the circular cylinder being cut. Its order of stacking and folding and the mutual echoes relations have not caused us to produce the disorderly feeling. The folding physique join to the whole through the alternately relational, and form one kind of mechanism. Although it do not have absolute difference in the volume, the change and the contrast effect which the circular and the semicircle brought cause the work to have the intrinsic logic and the order in the shape essential factor among the leadership, the secondary and the attached element. It still has conformed to "the multiplicity is unified."





“我不停地从不同角度观察作品，并在创作过程中不断思考与调整。希望通过不同的连接方式创造出不同的视觉效果。让每一个角度都有清新的视觉与心灵享受。我希望每一个作品的体现与感受都是特别且独一无二的，虽然这并不容易，我却乐在其中，享受着探索的乐趣。”

作品用了较少的切割动作，却产生了非常丰富而有意味的视觉效果。既然造型的效果取决于形体所包含的造型元素之间的关系，而不取决于形体的外在形式，那么，利用简单的造型也可以创造出具有丰富内涵的构成作品。事实上，越是单纯的作品越是能给人留下深刻的印象，并传递明确而深远的意味。作品对简单的形体造型元素展开了多维的变化，位移、错位、旋转、倾斜，产生了丰富的效果。

"I do not stop observing the work from the different angle, pondering and adjusting unceasingly in the creation process. I hope to create the different visual effect through the different connection way. Let each angle to have the fresh vision and the mind enjoys. I hope each work is specially and unique in manifesting and feeling, although this is not easy, I actually is happy and enjoy the exploring pleasure."

The work has used the few cutting movement, but produced enriched extremely and meaning visual effect. Since the modeling effect is decided by the modeling element relations which contains in the physique, but is not decided by the physique external form, therefore in another word, using the simple modeling also can create the rich connotation constitution work. In fact, but more is the pure work more is can make the profound impression to the human and transmit clear and profound meaning. The work has launched the multi-dimensional change to the simple physique modeling element, the displacement, the dislocation, the revolving and the incline, thus produced the rich results.



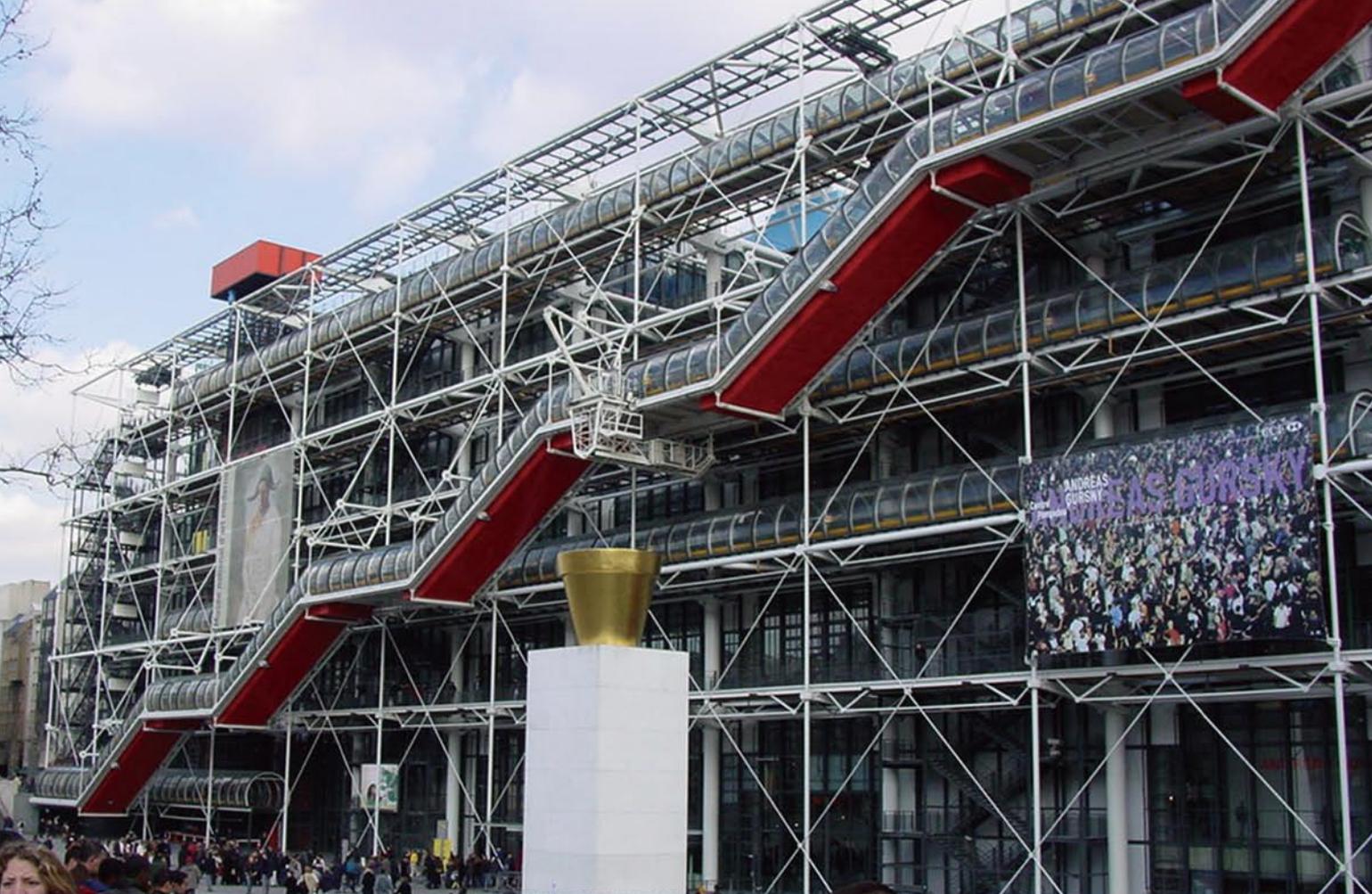
“对于这个作品我更加注重考虑它的比例问题，关注次要的、辅助的以及主要的形态之间方向和尺寸的关系。并且思考互相连结的方式。在许多个作品的磨练和冲击后这次的创作过程并没有太久时间，同时我发现了这个课题的美妙之处：增加了我的直觉反应——反复的思考与练习使得可以更有逻辑地去思维创意。”

公式般理性的思维方式是初期学习的必要经历，而非最后的目标。理性的思考会逐渐增强我们感性的直觉判断力，直至变为我们随心所欲的日常用语。

"I even more pay great attention to proportion question and the direction and the size relations of the secondary, the attached as well as the leading shape in this work, and ponder the interconnection way. I do not take too long time in this work after many disciplining and impact. Simultaneously I have discovered this curriculum wonderful place: It increases my intuition responding - - pondering and practicing repeatedly enable the thought to have more logic to go to creativity."

The formula rational thinking mode is the studying essential experience in initial period, but non-final goal. The rational ponder can strengthen our perceptual intuition judgment gradually, until it becomes the everyday vocabulary which we have our wish.







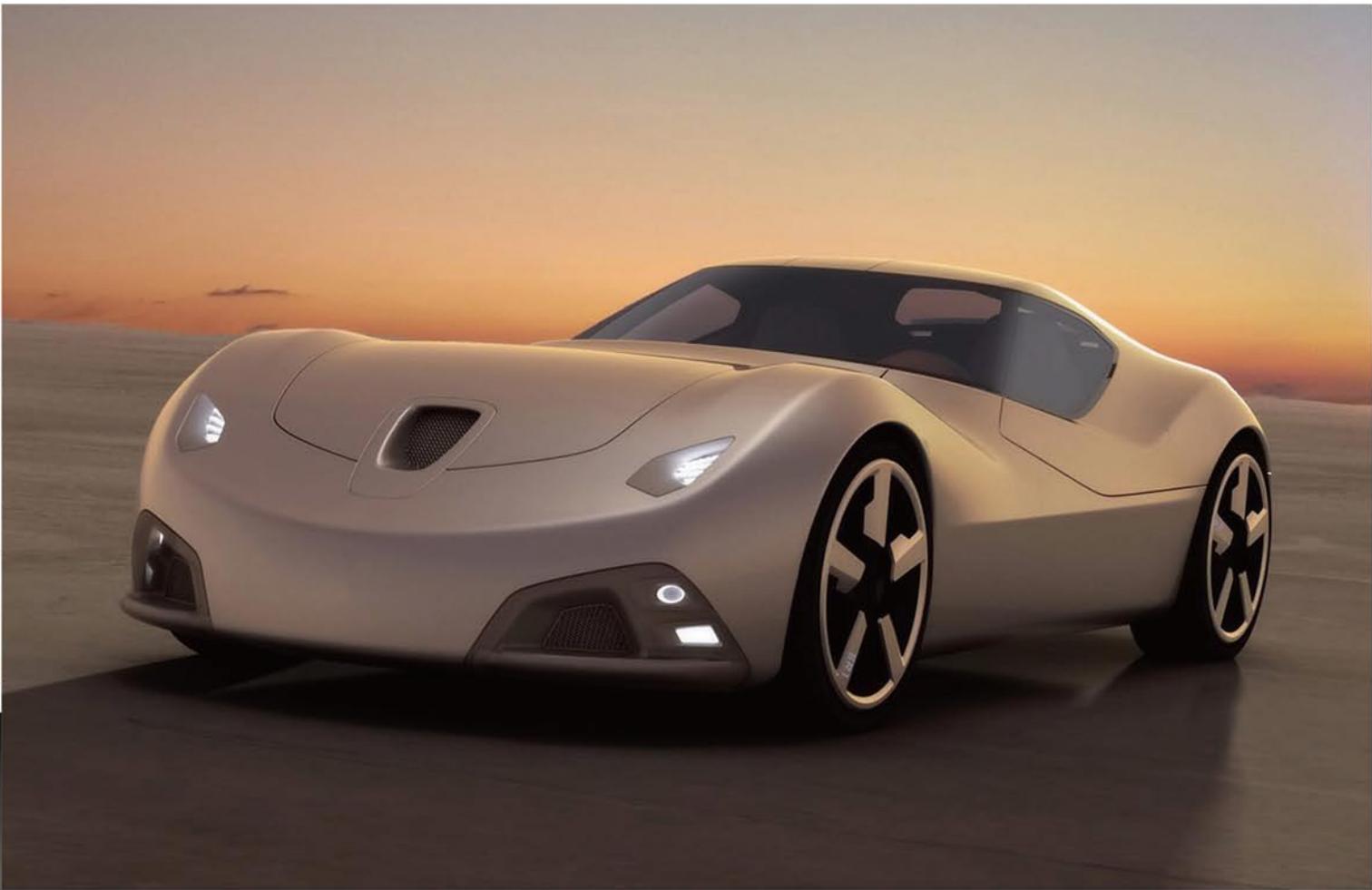
观察现实生活中的种种人工形态，其构成的元素更为多样，表现的形式更为丰富，但多样性统一的规律处处可见。通过观察分析优秀作品中的视觉形式规律进一步理解课题所阐述的构成规律。实际的设计项目通常要受到实际功能与生产条件的限制，需要在两者之间取得平衡。

Observing in the real life all sorts of artificial shapes, its constitution element is diverser, the performance form is richer, but multiple unification rule is everywhere. Through observing and analyzing visual form and rule in outstanding works further to understand the topic elaborating constitution rule. The actual design project usually is limited by the actual function and the working condition, this needs to obtain the balance between them.



“如果你在一个设计项目中处于停滞状态——无论是汽车设计或其他的任何产品——思考一下设计中的主导关系、次要关系和从属关系，这样就能从牛角尖里跳出来。这是设计的要领所在。”设计中的主导元素可能是任何一种造型要素：形体特征、色彩、肌理、韵律和节奏等。





"If you are at the stationary state in a design project - - regardless of is the automobile design or other any products - - pondering the leading relations, the secondary relations and the attached relations, then you can jump from the insignificant problem. This is the design main point." The leading element in design is possibly any kind of modeling essential factor: Physique characteristics, color, skin texture, rhythm and rhythm and so on."





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需要好  
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DO MY HAPPY  
DESIGN!



好的  
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时常能看到同学们  
熬夜的身影，  
并不是说明  
我们上课不认  
真完成作业。



很可惜  
是半个  
课桌照！



role box  
Comma!



编书的过程  
简单,但也复杂...

二十多年, 令十位有成就感的  
“不两成” HOMO 伴陪了我们大  
半辈子, 它们也同样陪伴着  
更多的大...

而是在熬夜时的  
我们  
更有斗志!



# 后记

由于时间仓促和能力所限，本书仍有很多不当之处，只能遗憾地留在这里。我们在此诚恳地希望大家批评指正。

最后向为本书提供作品的各位同学以及编辑此书过程中付出极大努力和热情的邱懿武、邵诗怡、罗哲宁、李琼、梁颖、徐思思等同学以及助教施妍表示感谢！

编者  
2008年8月7日

# Postscript

Because the time is hasty and ability is limited, there are still very many insufficient and incorrect keep here regreted. And sincerity hoping everybody to critics and point out mistakes liberally.

Finally we would like to show our appreciation to Qiu Yiwu, Shao Shiyi, Luo Zhening, Li Qiong, Liang Ying, Xu Sisi, Shi Yan. They have shown great passion and contributed a lot to this book.

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