

激发现代景观创意的火花 ——香港大学基础景观设计课程

THE SPARK OF CONTEMPORARY LANDSCAPE CREATIVITY — THE FOUNDATION LANDSCAPE DESIGN STUDIO IN THE UNIVERSITY OF HONG KONG

1 背景介绍：当代景观教学和香港大学园境学文学士课程

当代景观设计在过去20年间发生了重大变化，从追求形态和装饰性的空间设计演变到重视操作性和表现性的景观设计，并主张促进这些属性的实现。景观设计学不再单纯是一门追求美学的学科，而是选取其演进过程、分步机制、运动变化和工作系统等基本逻辑，来构成景观设计课程的基础。

麦咏诗

香港大学建筑学院园境建筑学部高级讲师、园境学文学士课程统筹主任

摘要

传统的景观设计课程大多以学习经典景观案例、实地考察和模仿练习作为基础教学方式。基础景观设计课的学生通常通过研习和摹拟先例来了解景观大师的设计，并通过场地调研的过程来学习空间设计。

一直以来，创意和创造性都是景观设计学所追求的学科目标。因此，景观设计教学也可以研究艺术创作的过程作为起点，引导学生欣赏艺术和设计作品，领悟设计概念的发展过程，并培养他们运用不同技法来表达设计的能力。同时，现代景观设计学不再只限于空间设计，而是需要对环境的演变进程、操作、分步机制、运动以及系统运作进行完整理解。由此可见，现代景观的表现性和动态性正受到重视。

以上对景观的理解需要一套不同的观察与表达的方式与技巧。本文旨在分享香港大学园境学文学士课程中的基础景观设计课如何基于现代景观学科语境来制定教学内容及其发展过程。

关键词

基础景观设计课；动态；过程；创意；艺术；概念；观察与表达

Vincci MAK*

Senior Lecturer and Program Director of Bachelor of Arts in Landscape Studies, at the Division of Landscape Architecture, Faculty of Architecture, the University of Hong Kong

*Corresponding Author

Address: 6/F Knowles Building, Division of Landscape Architecture, Faculty of Architecture, the University of Hong Kong, Pokfulam, Hong Kong, China
Email: wsvmak@hku.hk

ABSTRACT

Traditional landscape design studio training starts with the learning of a classic or prominent landscape project, may it be through site observation or a trace-over / imitation exercise. Foundation year students in a landscape program typically take the landscape precedent project as a study ground, to learn about the landscape master's design through the mimicking process in the trace-over exercise, or to learn about the articulation of spatial design through site observation.

Landscape Architecture, after all, is a creative endeavor. Thus, an alternative approach is to start the fundamental training with the study of artistic processes, to foster appreciation in art and design, innovative concept development, and articulation in craftsmanship. Also, the contemporary discourse of Landscape Architecture is no longer simply about spatial design, but has transformed to require understanding of process, operation, step-by-step mechanism, movement, and how a system works. The performative and dynamic aspects of landscape are being valued nowadays.

Such ways of seeing landscapes require a different set of observation and representation methods and skills. In this article, the author shares how the pedagogical content and developments of the foundation year landscape design studio in the HKU Bachelor of Arts in Landscape Studies BA(LS) Program help train students with such new interpretations to contemporary Landscape Architecture.

KEYWORDS

Foundation Landscape Design Studio; Dynamic; Process; Creativity; Art; Concept; Observation and Representation

编辑 田乐 翻译 常耿家祺 田乐

EDITED BY Tina TIAN TRANSLATED BY CHANG Gengjiaqi Tina TIAN

在基础设计教学中，另一个非常重要但却容易被忽视的组成部分是如何构思一个设计概念。有人认为设计概念的构思“只可意会，不可言传”。然而，一位景观设计师成功的关键在于他/她独特的设计概念，以及如何通过景观空间设计来凸显其概念。没有独特的概念，设计就失去了灵魂。这也是为什么设计概念的构思是景观设计教学的重点之一。

当代景观设计教学也许不能再仅仅要求基础学年的学生们复制历史上的景观杰作。现今所需要的教学方式应是培养学生发展自己的设计逻辑和敏感性，而非“通过复制来学习”。

基于此背景，香港大学园境学文学士课程于2009年创立。该课程设置的愿景是为学生提供全面的当代景观教育，使学生在毕业后拥有可应对这个瞬息万变社会的专业技能。在这个为期4年的课程中，设计部分的教学从基础学年的“人体与物件”学习、中间学年的“环境：社群和生物物理系统”学习，拓展到毕业学年的“系统：城市和区域话题”学习。

以“人体与物件”为研究对象的基础景观设计课关注物件的构成、布局，及其与人体的尺度关系，是景观设计的入门课题，所以也是培养学生对景观设计学学科认知的最佳时机。香港大学园境建筑学部的高级讲师麦咏诗从2011年设计并开展了“景观设计概论课”（即基础景观设计课，12学分，共12周，约需300~360学时），来对基础学年的学生进行概念创新和动态过程的教学。这门课程的教学活动主要

1 Background: Contemporary Landscape Pedagogies and the HKU Bachelor of Arts in Landscape Studies BA(LS) Program

Contemporary landscape design in the past two decades has transformed a lot. From the pursuit of forms and ornamental attributes in spatial design, the discipline of Landscape Architecture now values the operative and performative aspects of design and the roadmaps to achieve such attributes. Landscape Architecture is no longer an aesthetic discipline, but emphasizes on design logics that include process, step-by-step mechanism, movement, and systematic work flow, which now lay a foundation to landscape design pedagogy.

Another essential component often being ignored (or downplayed) in the teaching of foundation design studio is how to develop a design concept. Concept development, some say, is very intuitive and cannot be taught. However, the success of a landscape architect is dependent on the creativity of his / her design concepts and how these concepts are conveyed through landscape and spatial design. Without a creative concept, a design work may lose its identity and soul. This is why developing a design concept is essential to landscape design education.

Contemporary pedagogical approaches in landscape design perhaps need to shift from simply coaching foundation year students to replicate historical landscape masterpieces. “Learning by copying” is no longer applicable to contemporary pedagogical goals to train students to develop their design logic and to improve their design sensibility.

Under such a premise, the Bachelor of Arts in Landscape Studies BA(LS) Program in HKU (the University of Hong Kong) was established in 2009. The vision of the HKU BA(LS) Program is to equip graduates with professional knowledge and skills through a comprehensive landscape education, allowing them to cope with the ever-changing world. In this four-year program, the design studio scopes and sequences start from “body and object” in the foundation years, then “context: community and biophysical system” in the intermediate year, with the final year’s focus on “systems: urban and regional issues.”

During the “body and object” study in the foundation year studio, students are expected to learn design fundamentals. The making and composition of an object, as well as its relationship with human scale, are explored. This offers the best time to engage students with new interpretations of landscape. Vincci Mak, senior lecturer at HKU Landscape Architecture, has developed the “Introduction to Landscape Design Studio” (the foundation landscape design studio hereafter, 12 credits, with

基于定期的师生一对一讨论、评图和公开汇报等形式，学生可从中习得如何运用绘图和模型制作等技巧来表达其设计概念。

基础景观设计课初期以研究某一物件或动作，并以其过程和步骤为题来理解景观系统；随着教学内容和方法的发展演变，后期则以分析一件艺术作品来了解创作背后的文化故事或历史景况。初期教师主要通过向学生引进景观表现性的相关内容来改变新生们对景观设计学的粗浅观念，即景观是只关于环境美化的学科。景观动态机制的教授后来在本科生课程中得到重视，并成为学生学习基础景观设计课前必修的预备课程之一。通过教学观察得知，基础学年学生遇到的一个最大的挑战是如何发展设计概念。因此，后期的基础景观设计课有针对性地侧重于设计概念发展的教学。这些课程设计上的调整有助于厘清教学目标，并为学生提供更为有效的景观设计教学。

这两种不同学习轨迹的基础景观设计课使我们可以管窥设计教育如何在观察、分析和表达方面为学生开辟新的方向和方法。指导学生们如何观察、决定表达什么，以及如何记录，有助于其形成景观设计思维，这将成为景观设计教育学中的重要里程碑。本文旨在分享这些新的教学经验，并讨论它们如何启发与加深学生对于当代景观的理解。

2 景观作为动态机制的介入

景观从来都不是静态的。“对过程的表现是景观都市主义的核心关注点；将自然看作过程的理念指导着设计师去进行设计。”^[1]在当代景观设计中，我们视景观为一个动态系统，并在设计中采用“融入其中”的方法来建立与自然系统的融合。为了向基础学年的学生引进这种概念，设计课题的选取和其相关作业的布置都以培养学生对景观动态性的理解为目标。

2.1 鸟类运动的研究

运动变化是理解动态系统的重要因素之一。因此，在基础景观设计课的初期教学中，其中一个作业题目即选取鸟的身体运动作为研究对象。鸟类是景观的构成部分之一。选取鸟类做研究的部分原因是因为这有助于扩展学生对于景观设计的理解，即景观设计是为不同生物而设计的，万物共生本身就是一个动态的系统。当然，此题目选取的主要原因还是鸟能飞翔、行走，甚至游泳，它们形态各异的活动行为可为学生对多种身体运动的发生方式提供丰富的研究机会。

300 to 360 learning hours in 12 weeks) since 2011 to teach foundation year landscape students about concept creativity and dynamic processes. This course is primarily taught in the forms of regular desk crits, pin ups, and presentations. Students are trained with drawing and model-making skills to represent design ideas.

In its early years, this course engaged students to study objects or movements about their processes and mechanisms. As the course focus and pedagogical goal changed, in later years students were trained to study an art work and to understand the story and cultural / historic context of the creation. By introducing the performative aspects of Landscape Architecture, the early phases of the course reacted to the “default” notion held by foundation year students, that is the discipline is only about beautifying the environment. The importance of the study of landscape as a dynamic mechanism has then gained recognition in the BA(LS) Program. Therefore, it was then incorporated into the pre-requisite course that students need to take prior to the foundation landscape design studio. Teaching observation reveals that one of the biggest challenges for foundation year students is about how to develop a design concept. Therefore, the later phases of this course focused on design concept development to help improve students’ knowledge and skills strategically. Such training would help sharpen the pedagogical objectives and provide more effective design knowledge and skills for students.

The two study tracks resulted in examples of how students were guided to expand new horizons and to explore a wider range of methods in observation, analysis, and representation, which inform their landscape design thinking. These are all important cornerstones in landscape design pedagogy. This article aims to share these new learning experiences and discuss how they make an impact on students’ understanding of contemporary landscape.

2 The Teaching of Landscape as a Dynamic Mechanism

Landscape is never static. “Representation of process is the central concern of Landscape Urbanism; the movement’s view of nature as process guides the designers in developing their designs.”^[1] In contemporary landscape architecture, we try to incorporate our understanding of landscape as a dynamic system in our design, adopting an influx approach to work with natural systems. Design studio topics and associated exercises were carefully selected, when introducing this concept to foundation year students, in order to foster their comprehension of the dynamic nature of landscape.

1. 学生王天霖以常见的乌鸦作为研究对象，并绘制当其翅膀展开至最大范围时的全身比例关系图。除了了解乌鸦身体的各个尺寸，王天霖还研究了这种鸟如何通过其翅膀的运动来实现飞行，以及其他与身体运动相关的行为，如觅食。

1. A scaled drawing of a common raven when its wings are spread to the maximum extent, by student Wang Tianmeng. Wang studied a common raven on its various body dimensions, and how this bird constitutes its movement of flying with its wings, as well as the bird's other behaviors associated with body movements, such as food hunting.

这个练习中选择的鸟类在体型和生活习性上各具特点，飞行方式及所运用的身体部分，乃至动作的速度和频率等方面都各不相同。鸟类如何运动以达到自身身体平衡，及与景观环境平衡，都是学习的一部分。

这些乍听起来好像都与景观设计无关。但是如果将景观系统的运作机制解码，就会发现二者之间拥有相似的元素。“景观的复杂性在某种意义上恰恰在于景观中的元素的固有动态和生态本质，而这取决于我们如何理解生物体与其环境之间不断发展的关系，而非孤立地理解离散的元素。”^[2]景观系统是一个由各种元素构成的网络，并且所有的元素都是相互联系的，一个元素的运动（或操作）可能触发序列中另一个元素的运动变化。如果其中的某一部分无法运作，其他部分就无法运作。这一点和身体运动发生方式十分相似：骨骼的大小与肌肉和肌腱的推拉方式相互关联。

此研究的关键在于重点学习和理解动态系统的运作机制，并将其延伸至对于景观的系统理解。因此，在基础景观设计课中，对鸟类运动的初步研究，是对其整体和身体部位的尺寸、典型运动行为和生活习性形成的概观（图1）。

鸟类的身体运动研究背后旨在向学生传达身体各部分共同合作从而产生身体运动这一观念。同时，作为设计练习的一部分，教学时亦引入了“运动变化图表”，以记录和表达随时间变化的一系列动作。这呼应了当代景观设计学的论述：“……景观都市主义的表演的重要元素，就是用‘图表’来表达对生物态的演进过程，从而引入时间元素……”^[1]

2.1 Study of Bird Movements

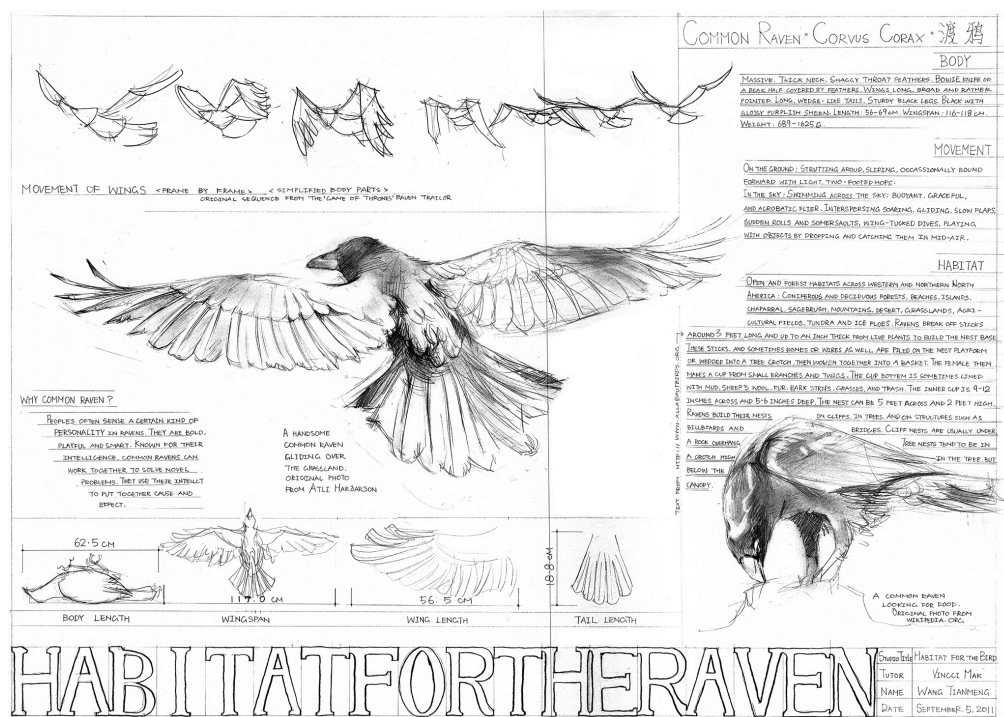
Movement study is one of the most important methods to understand a dynamic system. Therefore, the anatomy and movement of birds were introduced as study topics in one of the early versions of the foundation landscape design studio. Birds are inhabitants in the landscape. The study of birds is relevant because it helps expand the understanding that landscape design is created for many different living things (and the co-existence of all creatures is a dynamic system itself), and of course the main reason is that birds can fly, walk, or swim. Its various body-moving behaviors provide rich study sources for students to explore the multiple ways of body movement.

The collection of birds selected for the course varies in size and living pattern. The ways they fly are all different. They move their body parts differently, resulting in different speeds and paces of movement. How the birds achieve a bodily balance with their movements, and create equilibrium with the landscape context, are also part of the study.

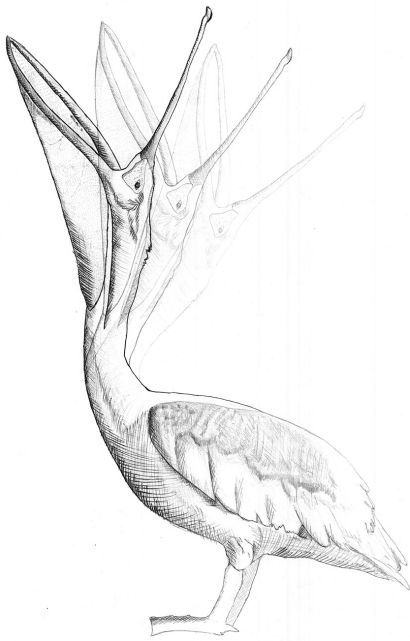
All these seem unrelated to landscape design. However, if one deciphers how a landscape system works, there may be similar elements to be found. “Landscape offers... complexities, not least of which is the inherent dynamic of its elements and the very nature of ecology, which is fundamentally about understanding the set of ongoing relationships between organisms and their environment, and less about understanding discrete elements in isolation.”^[2] A landscape system is a network of elements, the movement (or operation) of one element may trigger the movement of another element in the sequence, and all the parts are inter-connected. If one of them does not perform, the others will not neither. This is highly similar to how body movement occurs: the sizes of bones, and how the muscles and tendons get pushed and pulled are inter-related.

Learning how a dynamic system works is key, and such an understanding is adopted in the comprehension of landscape as a system. Therefore, the initial study of a bird's movement in the foundation landscape design studio is to form an overview of the bird's overall and body parts' sizes, typical body movements, and living patterns (Fig. 1).

While the essential message behind this study of bird movements is the inter-connectedness of various body parts, “movement diagram series” was also introduced as part of design studio exercise, to document and describe such a series of movements through time. This echoes the discourse of contemporary Landscape Architecture that “(t)he... important element of Landscape Urbanism's representation, the diagram, addresses biological and ecological processes, thereby introducing the element of time...”^[1]



© 王天霖 / Wang Tianmeng



2 © 胡承轩 / Woo Shing Hin Bryan

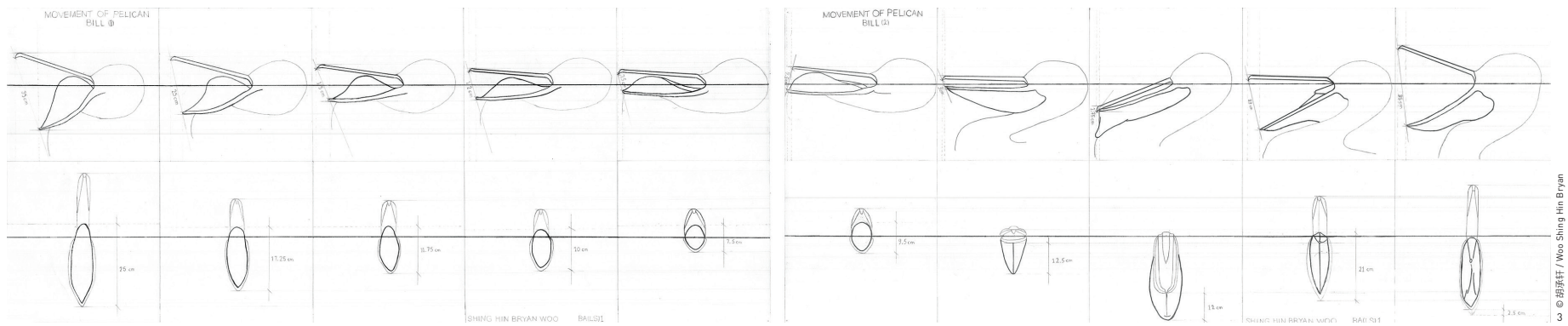
2. 学生胡承轩描述鹈鹕鸟喙动态的立面图。胡承轩以鹈鹕为研究对象，这种鸟以大口袋一样的鸟喙而闻名，因此他将研究重点放在了鸟喙的运动上。他将鸟喙（和相连的脖颈部分）与鹈鹕的立面图重叠，以此来表达这一运动。
3. 学生胡承轩记录鹈鹕鸟喙动态的运动变化图表。胡承轩对鸟喙的运动进行了进一步观察，并结合鸟喙的大小和时

间的变化来描述鹈鹕如何捕鱼为食。

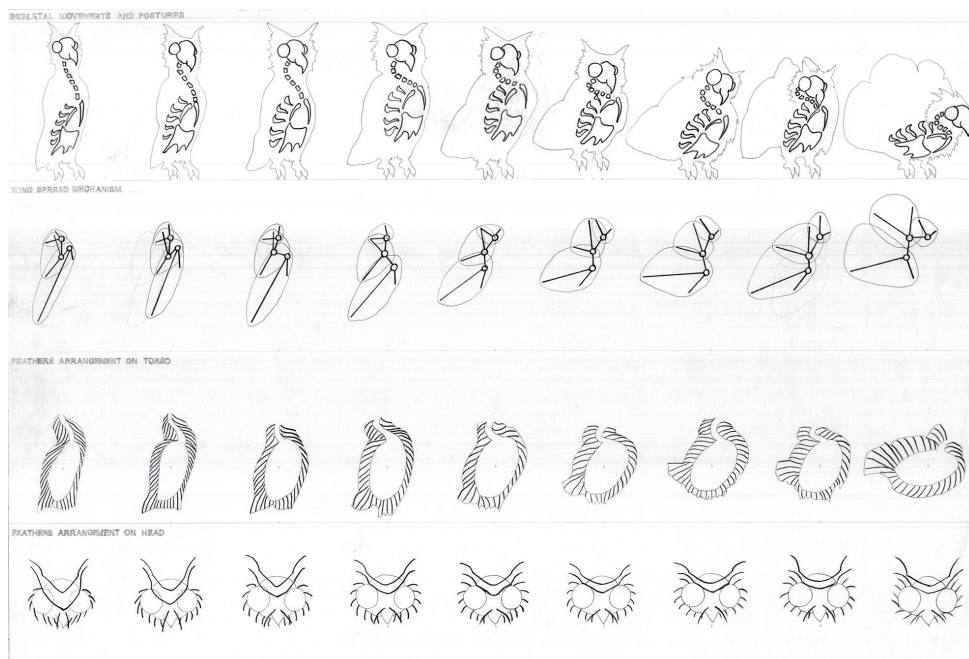
4. 学生李云烽记录猫头鹰准备自卫时的运动变化图表。他尝试记录猫头鹰在这一动作中各身体部位的移动和变化情况。
2. An elevation drawing of a pelican describing the bird's mouth movement, by student Woo Shing Hin Bryan. Pelican is characterized for its "big pocket"

3. A movement diagram series of a pelican describing the bird's mouth movement, by student Woo Shing Hin Bryan. Woo further

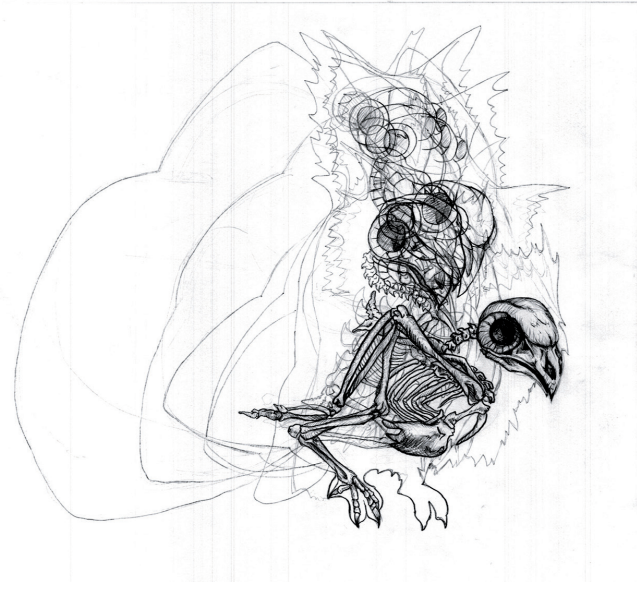
4. A movement diagram series of an owl when it prepares for a self-defense, by student Lee Wan Fung. Lee tried to document how the body parts of an owl changes during the movement.



3 © 胡承轩 / Woo Shing Hin Bryan



4 © 李云烽 / Lee Wan Fung



4-2 © 李云烽 / Lee Wan Fung

所以，除了以平面图和立面图这些典型的表现手法来绘制鸟类外，学生还要绘制一份“运动变化图表”。这种表现方法帮助学生观察和分析鸟类身体特定部位的运动细节，并将这种运动的步骤与时间联系起来。“这种系列图是描述时间与空间之间复杂关系的有效工具。”^[3]这种表达方式也参考了早期电影发展时的连续摄影法，例如艾提安-朱尔斯·马雷和埃德沃德·迈布里奇的作品。“（在连续摄影中）一个身体关节的动作被记录为一连串点象，连接起来就成了图形。”^[4]

学生可以分别画出每一步的运动图，也可以把每一步的运动在画面上进行叠加。两者均可帮助学生生成运动的每一步骤形成清晰而深刻的理解（图2~4）。

作为一项观察分析练习，这种对运动行为的观察为学生奠定了理解景观机制的基础，亦为学生下一步的设计概念学习做了准备。该课程最终要求学生设计一处虚构的“鸟类栖息地”，学生要从他们对鸟类动作的理解中发展出一个设计概念，并通过绘制概念图展开学习。由于运动变化与身体部位的形状、大小和比例有关，学生们可利用之前研究所得的形状比例，以及各身体部位的移动机制来绘制概念图。这样的概念图为学生鸟类栖息地三维空间设计提供了二维基础（图5~9）。

2.2 对体育运动的研究

之后的基础景观设计课沿用了相似的教学手段，目的仍然是使学生了解运动变化是如何进行的，但研究课题变为了体育运动，并以研究体育运动步骤为概念，设计一个体验场馆。借由此，学生的研究重点可以集中在人体尺度的运动变化上，有助于训练他们空间设计的能力（图10）。

以体育运动作为研究对象的优点在于其对学生而言相对容易理解，毕竟人最熟悉的还是自己的身体。但由于参考照片或图像选取的拍摄角度，会使学生容易混淆尺度和运动幅度，从而影响研究效果。

Therefore, besides the typical representation of drawing plan and elevation views of the birds, students were also asked to make a “movement diagram series.” This representation method helps students observe and analyze a bird’s movement of a particular body part in details, and to relate the steps of such a movement with time. “Serial drawings are effective tools for illustrating the complex relationship between time and space.”^[3] This way of representation also adopts the chronophotography in early history of motion picture, for example, the works by Etienne-Jules Marey and Eadweard Muybridge. “The points (on the chronophotograph) traced by the movement of a joint on a body can be readily connected to form a graph.”^[4]

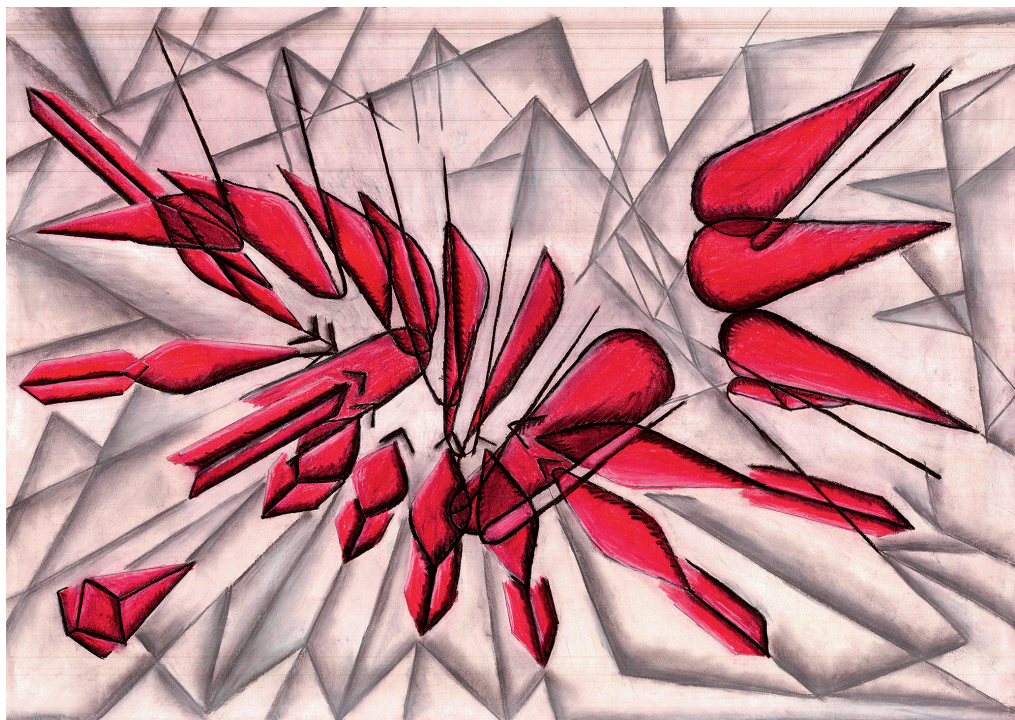
Students diagramed the drawings of each step of movement, or overlaid all the steps onto one drawing. Both comprise very strong and clear understanding of how the steps come together to make one movement happen (Fig. 2 ~ 4).

As an exercise of observation and analysis, the movement study laid a foundation for understanding landscape mechanism, which prepared students for the next step exercise: to develop a design concept. The final project of the course was to design a hypothetical habitat for the bird. Students were asked to develop a concept inspired from their understanding of the bird’s movement and to represent it through concept drawing. Having learned that a movement relates to the shape, size, and proportion of body parts, students started using forms and proportions, and how the pieces collide and detach, to compose their concept drawings. Such drawings then served as the two-dimensional basis that supported students in developing three-dimensional design for the bird’s habitat (Fig. 5 ~ 9).

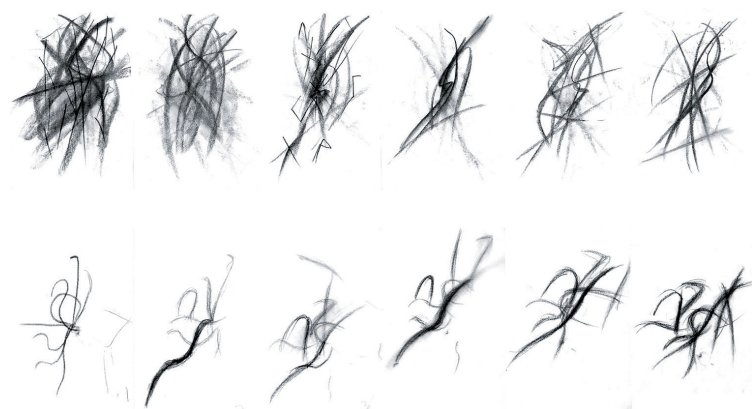
2.2 Study of Sports

The next iteration of the exercise in the foundation landscape design studio adopted a similar pedagogical approach, aiming to continue engaging students to learn how movement works. The difference was the subject: it became a study of sports, and by studying the motion steps of the sports, students were to design a sports pavilion. This exercise facilitated students’ understanding of human-scale movements and improved their learning of spatial design (Fig. 10).

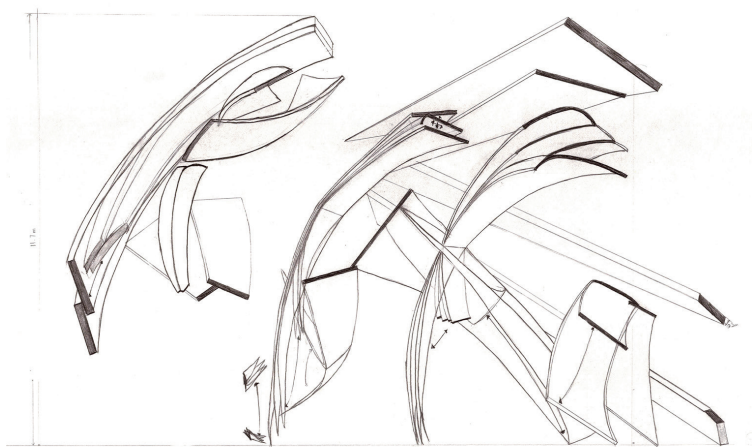
The advantage of studying movement in sports is that it is easy to understand as people are familiar with the human body. However, the reference photographs or images are often taken from angles confusing to students in terms of scales and the range of motions, causing impacts on study results.



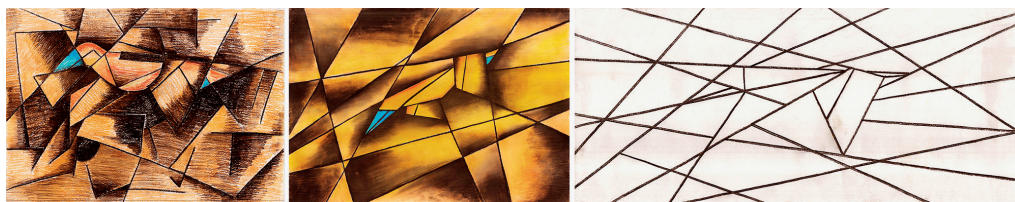
© 胡承轩 / Woo Shing Hin Bryan



© 潘文怡 / Pan Wenyi



© 潘文怡 / Pan Wenyi



© 幸嘉琪 / Hang Ka Kee Cathy



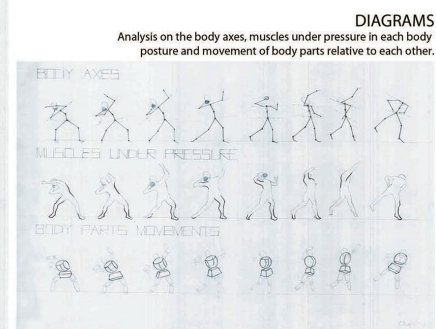
© 幸嘉琪 / Hang Ka Kee Cathy

5. 学生胡承轩基于鹈鹕行为研究进行的概念图绘制。该概念图所呈现的形状、大小和角度，都来自于他早期对鸟喙运动变化的观察。
 6. 学生幸嘉琪把蓝脚鲣鸟行为抽象化的概念图系列。蓝脚鲣鸟以其流畅而快速地从空中潜入水中捕鱼的行为而闻名。在此系列概念图中，她一步步地重点描绘了蓝脚鲣鸟的这一特点。
 7. 学生幸嘉琪基于对蓝脚鲣鸟所绘的概念图发展而来的概念模型。她从概念习作中提取外形轮廓，从而进一步形成鸟类栖息地的空间设计：她将长三角形引伸为鸟类栖息地的设计概念，创建线性空间，以呼应此鸟快速和精确的动作。
5. Concept drawing abstracting a pelican's movement, by student Woo Shing Hin Bryan. In his concept drawing, the shapes, sizes, and angles of the forms were informed by his earlier study of the bird's mouth movement.
 6. Concept drawing series abstracting blue-footed booby's movement, by student Hang Ka Kee Cathy. The bird blue-footed booby is famous for its smoothness and speediness to dive in to water from air for fish hunting. In Hang's series of concept drawings, she accentuated the bird's characteristic step by step.
 7. Concept model derived from the concept drawings of the bird blue-footed booby, by student Hang Ka Kee Cathy. She extracted the forms developed in her concept work to form the spatial design of the bird's habitat. Hang derived to use a long triangulated form to create linear spaces for the habitat to echo the speedy and precise movement of the bird.

8. 学生潘雯怡将火烈鸟行为抽象化的概念图系列。学生潘雯怡以火烈鸟为研究对象，在其概念图中表现了火烈鸟腿部的细长形状和它们的动作。
 9. 学生潘雯怡鸟类栖息地设计剖面图。从图中可以看出，她将从早期概念阶段学到的关于鸟的腿部形状、组成、比例和运动模式的知识，应用到最终的设计中。
 10. 学生张爱惠研究并记录掷铅球这项运动的运动变化图表。
8. Concept drawing series abstracting a flamingo's movement, by student Pan Wenyi. Pan studied the bird flamingo, and the concept drawing manifested her interests in the elongated shape of bird legs and their movements.
 9. Section drawing of the bird's habitat design, by student Pan Wenyi. She applied the knowledge learned from the earlier concept phases about the bird's leg form, composition, proportion, and movement pattern into the development of her final design.
 10. Movement diagram series studying and recording the sport "shot-putting," by student Cheung Oi Wai Charity.



HUMAN BODY IN ACTION
SCALE 1:2
Twisting of waist muscles produce elastic energy which later converted to kinetic energy of the metal ball.



DIAGRAMS
Analysis on the body axes, muscles under pressure in each body posture and movement of body parts relative to each other.

© 张惠惠 / Cheung Oi Wai Charity

2.3 对达·芬奇发明的研究

受以体育运动为研究课题的教学经验的启发，基础景观设计课后期对达·芬奇的发明进行了研究。记录达·芬奇装置器械发明的文献丰富，可供学生挖掘的参考资料众多，而且达·芬奇令人惊叹的素描也会对学生的制图学习有所启发，他对细节、尺度和比例的专注也激励着学生们对于普适设计的探索。达·芬奇所发明的仪器往往需要由人来操作，因而也就需要考虑到人体的尺度和运动。最重要的是，达·芬奇精心设计的装置中详细而复杂的操作和运动机制完美地契合了培养学生理解动态系统的教学目标（图11~14）。这种理解与当代景观论述中理解基础设施的作用及其相关的表现、机制和过程密切相关。“虽然基础设施本身是静态的，但是它们组织和管理的是复杂的过程、运动和交换系统……在基于基础设施的都市主义中，形态的确很重要，但更重要的是它能做什么，而不是它看起来像什么。”^[5]

事实上，通过研究一个机械来理解景观系统并非首创，来自美国加利福尼亚大学伯克利分校的奇普·苏利文教授曾在其《空间观察和分析表达》一文中借用美国的著名风景画家埃里克·撒隆绘制的机械图纸表达了此观点：“埃里克·撒隆……使用分析图来理解过去的

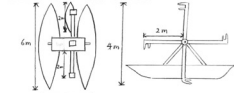
2.3 Study of Da Vinci Inventions

Lesson learned from the study of sports exercise led to the evolution of the project topic of the course. It was later developed into the study of Da Vinci inventions. Da Vinci left abundant documentations of his inventions for students to reference. His amazing sketches inform students in drawing techniques. His dedication to details, scales, and proportions inspires students in the understanding of universal design. A Da Vinci apparatus often requires a manual operation, from there the movements at human scale also come in to consideration. And most importantly, a Da Vinci invention is often a well-designed apparatus with a sophisticated mechanism in operation and movement, making it a perfect topic to meet the pedagogical objective of nurturing students to understand dynamic systems (Fig. 11 ~ 14). Such understanding closely relates to infrastructure's role in contemporary landscape discourse and its performances, mechanisms, and processes. "Although static in and of themselves, infrastructures organize and manage complex systems of flow, movement, and exchange.... In infrastructural urbanism, form matters, but more for what it can do than for what it looks like."^[5]

In fact, the study of a machine as a means to understand landscape system is not new. Professor Chip Sullivan from the University of California, Berkeley illustrated this point with the machine drawings made by Eric Sloane, a renowned American landscape painter, in his article Observation and the Analytical

DREDGE FUNCTION AND OPERATION

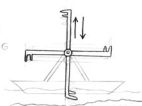
DIMENSIONS



A RAFT IS MOORED BETWEEN THE TWO BOATS IN ORDER TO DISCHARGE THE MUD AND THE WASTE PICKED UP.



DEPTH OF EXCAVATION CAN BE ADJUSTED BY THE VERTICAL SLIDING OF THE DRUM.



THE DREDGE IS OPERATED BY A CRANK SO THAT THE GEAR WHEELS WILL ROTATE FACILITATING THE ROTATION OF THE PADDLES.

ROTATION OF PADDLES PUSHES THE WATER BACKWARD. THE DREDGE BEING GAINING THE REACTION FORCE TO MOVE FORWARD.

THE CABLE COILS AROUND THE DRUM AS THE WHEEL TURNS, MAKING THE DREDGE MOVE FORWARD.

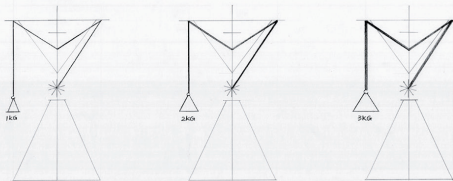


—BA(LS)2 FONG HEI YI JOYCE—

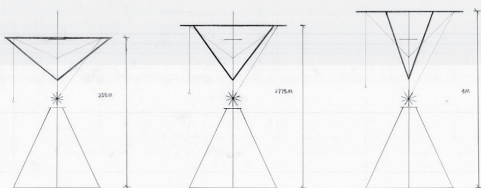
© 方豪宜 / Fong Hei Yi 11

DIAGRAM

THE TENSION OF THE ROPE CHANGES WITH THE WEIGHT OF THE OBJECT IT IS LIFTING.

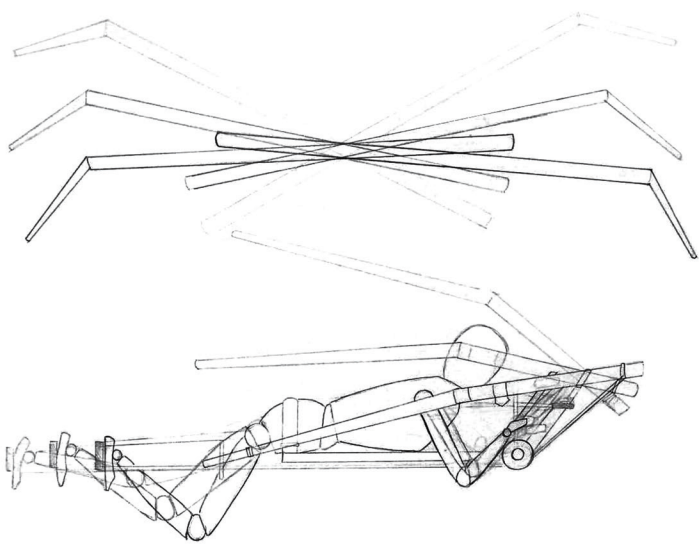


THE HEIGHT OF THE CABLE CAN BE ADJUSTED BY CHANGING THE DISTANCE BETWEEN THE TWO OBLIQUE BEAMS.

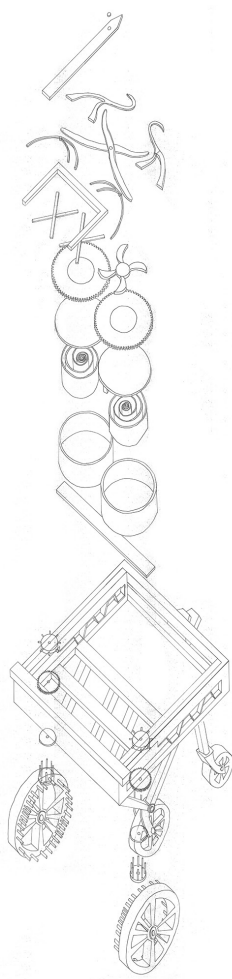


BA(LS) 1043
LIN ZHIQI © LIN ZHIQI

© 林之琪 / Lin Zhiqi 13



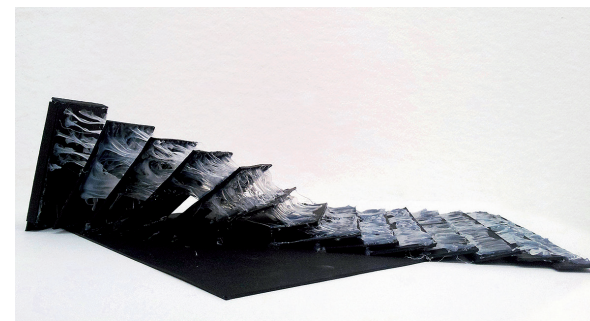
© 滕凱欣 / Tsoi King Yan Ingrid 14



© 袁浩信 / Yuen Ho Shun 12

11. 学生方豪宜解析挖掘机工作原理的绘图。
12. 学生袁浩信解析计程器不同部件的轴测图。
13. 学生林之琪探究带有中心绞车滑轮系统的起重机如何随着设备张力及高度的变化而运作的图表。

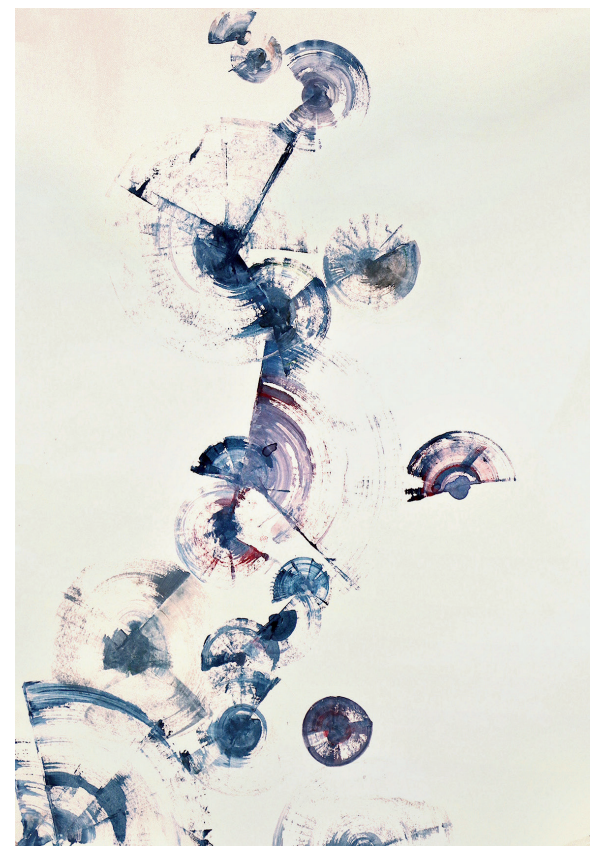
11. Drawing analyzing the operation of a dredge, by student Fong Hei Yi.
12. Axonometric drawing deciphering the parts of an odometer, by student Yuen Ho Shun.
13. Diagrams exploring a crane with central winch, by student Lin Zhiqi. Lin studied how the crane's pulley system operates as the tension and height of the apparatus changes.



© 吳顯昌 / Ng La Ching 15



© 吳顯昌 / Ng La Ching 16



© 王偉文 / Wang Junwen 17

14. 学生蔡景欣对于飞行器的绘图。学生蔡景欣探讨了达·芬奇的飞行器发明，并将重点放在人的运动如何操作飞行器上。

15, 16. 学生吴丽晶通过对带中心绞车滑轮系统的起重机的运动进行研究，推导出动词“拉扭”，来建立概念模型并绘制概念图。其概念模型中，纸板间材料力度的大小以及概念图中笔触的样式都帮助吴丽晶发展出空间中与“拉扭”的相关概念。

17. 学生王俊文对灯笼状骨架的旋转起重机进行了研究，并推导出了“围绕”这一动词。他以概念图探讨当有多于一个围绕动作同时发生时并置的空间质量。

18, 19. 学生邹丹叶以水力锯为研究对象，并选择了动词“流动”来进行概念学习。她基于其对“流动性”的理解制作概念模型，并将这一概念转化为空间设计的模型。

14. Drawings exploring a flying machine, by student Tsoi King Yan Ingrid. Tsoi studied Da Vinci's flying machine with a focus on how human's movement engages in the operation of the flying machine.

15, 16. Through her movement study with a crane with central winch, student Ng Lai Ching derived the verb "strain" to develop concept model and drawing. The magnitude of strain between the cardboards in the concept model, as well as the pattern of strokes in the concept drawing, helped Ng develop her idea of "strain" in space.

17. Student Wang Junwen studied a revolving crane with lantern framework and selected the action verb "revolve" for further study. His concept drawing explored the spatial quality of the juxtaposition of multiple revolving actions.

18, 19. Student Zou Joy Liu studied the hydraulic saw and selected the verb "flow" to further her concept study. She made concept model to explore the attribute of fluidity in "flow," and translated such a concept into a spatial form.

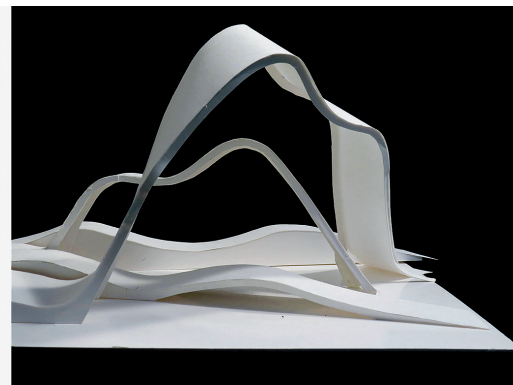
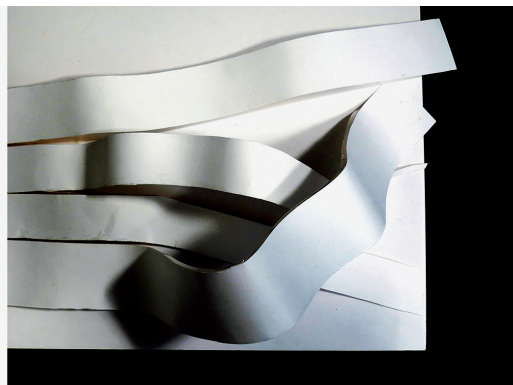
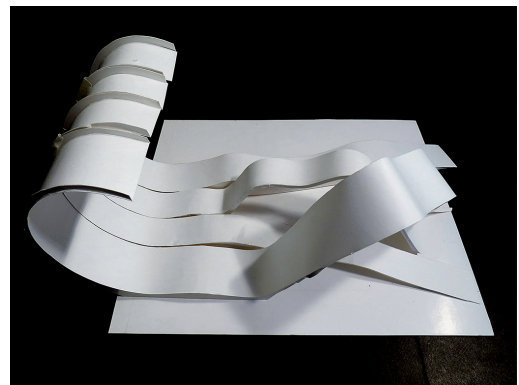


© 邹丹叶 / Zou Joy Liu 18

机械和工具是如何制造和使用的……其对每一个单独的部件进行了图解，并通过一系列细节和流程的绘图对机械进行了重现。”^[3]

在学习了达·芬奇的发明之后，学生们要推导出一个动词来描述他们所研究的仪器的运动。然后，他们基于该动词绘制概念图并制作模型，这一中间步骤有助于他们介入相应的空间设计练习。这种练习构建方式旨在使学生意识到景观是动态的，且常常处于不断的运动之中。动词不仅有助于学生们描述和表达在本领域应该掌握的景观操作机制，动态随着时间对空间环境的演变影响亦对学生在空间设计品质及体验方面有所启发。这些都能指导学生在理解景观动态性的前提下去发展自己设计的基本原理。在此启发下，学生们可以进一步深化他们的设计概念，而该练习正旨在指导这一创作过程的发生（图15~19）。

此练习的另一重教育价值是，达·芬奇在设计装置时是有其独到的设计决策的，通过潜移默化地学习达·芬奇的设计逻辑和解读仪器的操作，学生们可以间接地学习设计决策的产生过程。这样的学习过程某种意义上借鉴了经典景观先例的研究方法，不同的是，学生还需要将他们所理解的设计逻辑，分析和转换为可应用到景观设计的知识。相对于以经典景观先例研究来直接学习空间设计，达·芬奇发明的研究更侧重于针对学生基础、概念和逻辑的训练。



© 邹丹叶 / Zou Joy Liu 19

Representation of Space: “Eric Sloane... used analytical pen and ink drawings to understand how the machines and tools of the past were fabricated and used.... Sloane diagramed each individual part and reconstructed the machine through a progression of details and processes.”^[3]

After learning about the Da Vinci inventions, students were asked to derive an action verb to describe the movement of the apparatus they studied. Then, they developed concept drawings and models based on the verb — this intermediate step helped them ease into the spatial design phase. The framework of the exercise aimed to deduce the understanding that landscape is always influx and in constant motions. The derivation of action verbs helps describe and articulate the landscape operations that students should learn about in this discipline; moreover, how a motion occurs over a given timeframe affects the characteristics of a space also inspires students to consider the experience and quality of the space they design. This step guided students to develop their design rationales based on the understanding of the dynamic nature of landscape, and to articulate their design concepts — coaching students through this creative process to happen is the exact goal of the exercise (Fig. 15 ~ 19).

Additionally, this exercise allowed students to indirectly study the logic of design decisions of Da Vinci when he developed a piece of apparatus. By deciphering the operation of the apparatus, students learned how design decisions of these masterpieces were made. Such a learning process weaves back to the typical landscape precedent study approach, yet here the design logic students understand still need to be analyzed and transformed into knowledge to apply into their future landscape design. The study of Da Vinci inventions focuses more on training students in design fundamentals, concepts, and logics, rather than a typical landscape precedent study which one learns directly about an existing space.

3 景观设计的创作过程

自2011年起,香港大学园境学文学士课程进行了以动态系统为教学目标展开基础景观设计课的教学工作。教学经验显示,大多数加入该学位课程的学生都已适应这样的教育方向。所以,后来在课程更新时,在基础景观设计课之前为学生安排了一门与视觉表达相关的手绘课,并在教学内容上引入了将运动、操作和景观视作动态系统的学习。因而,这门基础景观设计课也需要开发新的教学课题。经由教学观察到的是,许多基础学年的学生在发展设计概念时常容易没有头绪,无从下手,所以引导学生如何适应设计这一专业领域的思维和工作模式便成为一个重要的新任务。

因此,基础景观设计课将教学重点转向发展创意概念的过程,通过引导学生一步步建立自己的设计理念,使其有独立设计的能力。基础景观设计课的课题从2015年开始致力于培养学生对艺术和设计的欣赏和概念构思的能力。

景观设计学是一门内涵广泛的学科,与其他学科之间存在着许多共同点与交叉点。创意艺术是和景观设计学有许多共通之处的学科之一。许多优秀的景观设计大师也受到了艺术的影响。“在他(劳伦斯·哈普林)办公室里展示的图纸中可以看出,他早期(哈普林)借鉴了胡安·米罗等现代画家的作品,其(哈普林)后期的概念速写作品也深受立体主义的影响。”^[1]艺术作品中包含的艺术史知识,以及每位艺术家的创作过程,都有助于年轻的景观设计学生理解创意概念是如何构思的。学生在接到设计作业时,通常会先考虑空间设计是否实用。虽然这是衡量一个设计是否成功的标准之一,但设计也寻求由创作概念所创造的附加价值。设计的力量在于能够看到和构思出超越常规的想法,从而启发新的思维 and 生活方式。所以基础景观设计课的新教学内容也致力于培养学生对设计的理解和概念构思的能力。

以创意艺术为切入点让基础景观设计课学生参与设计创作过程亦有先例可循。苏利文教授分享:“我一直认为景观应被视作为一种艺术形式。我教授的所有景观课程都以艺术视角出发,并鼓励每个学生都能在直观理解、灵感和想象力等方面拥有自己独特的认知。每个课程作业大纲都会建立一个支持并推动学生发展其个人创作过程的框架。”^[6]

3.1 对艺术作品的研究

与之前的基础景观设计课相似,新的基础景观设计课在进入实际的项目设计之前亦需要进行分析研究,只是研究对象变成了一件艺术作品。课堂选用的艺术作品的筛选标准包括其在艺术史上的重要意义、对当时文化发展的反思、创造性的突破,以及在形式、材料、空

3 Creative Processes of Landscape Design

Since 2011, the BA(LS) Program at HKU has run this foundation year design studio with pedagogical goal to strengthen students' understanding of dynamic systems. Since then, most students coming in to the program are well-tuned to this educational direction. When the program went through a curriculum development later, a hand drawing representation course was introduced prior to this foundation year design studio, and the learning about movement, operation, and landscape as dynamic systems was incorporated there. The foundation landscape design studio could then gear towards another agenda. One observation made through teaching was, many foundation year students had struggles to start a design process and to come up with a design concept. How to ease their mind and mode of working into design became an important task.

Therefore, the foundation year landscape design studio has shifted its emphasis towards the process of developing creative concepts, empowering students with design creativity by guiding them through the steps of building up their own design concepts. Since 2015, the selection of studio topics has developed to foster students' appreciation in art and design and to nurture their capacity in concept development.

Landscape Architecture is such a broad and inclusive discipline, and there are many overlaps with other disciplines, in particular the creative arts. Many outstanding landscape architects are influenced and inspired by arts. “In his (Lawrence Halprin's) early office presentation drawings, he referenced (Joan) Miró and other modern painters. In his mature work, the notebook drawings seem closer to Cubism.”^[1] Knowledge of art history and the creative process that each artist pursues benefit young landscape students to understand how creative concepts are conceived. The common approach a student may first resort to when being given a design task is to develop a pragmatic spatial solution. While this is one of the criteria to evaluate if a design is successful, design also looks for the added-value created with artistic concepts. The power of design is to see and conceive ideas beyond norms which lead to new ways of thinking and living. It is the level of design understanding and concept creation that the new version of the foundation landscape design studio aims to train students with.

Drawing inspiration from the creative arts to engage foundation landscape design studio students in creative process is not new. Sullivan once shared, “I have always believed that landscape architecture is an art form and should be accepted as such. I teach all of my classes through an artistic lens, with each

20. 学生樊立雪以野口勇的《从火星上看到的雕塑》这一作品为研究对象。虽然这是一件虚构的作品，但樊立雪基于人可以走近作品这一假设，巧妙地绘制出该艺术作品的立面图。这件作品通常是从鸟瞰的角度来进行解读的，而她决定使用立面这一表达角度，展现出对这一作品的一种少见的诠释。

20. Student Fan Lixue studied the work *Sculpture to be seen from Mars* by artist Isamu Noguchi. It is an imaginary piece of work. Fan smartly derived its elevation view, assuming someone is approaching the sculpture. This masterpiece is often understood from a plan view, so Fan's decision to make an elevation drawing brought alternative interpretation of the piece which is rarely seen.

间等方面的创新运用。选用的艺术作品可视为一个系列，学生们可以接触到各种各样的艺术创作过程，并了解它们在创意世界中产生了何种影响。

学生们对艺术作品的学习从绘制该艺术作品的平面图和立面图开始。他们通常基于艺术作品的透视角度照片，对其真实尺寸进行研究推断，以便按比例绘图（图20）。

接下来的则是最重要的练习，即对概念构思的探究。通过初步的学习和研究，学生需要了解当时的文化历史背景，以及这种背景如何影响艺术家的创作过程。和景观设计一样，艺术创作也会经历反复迭代。许多艺术家可能有一件广为人知的代表作品，但学生通过研究，会发现艺术家往往会以相同的艺术创作轨迹创造出许多类似的作品。我们可以把它们理解为一系列艺术作品，学生们需要学习的正是这背后的艺术创作过程或创意发展过程。尽管学生的研究对象只是一件艺术品，但此练习会让他们意识到，为理解一件艺术作品，他们需要对艺术家的整个系列作品进行研究。这样有助于他们了解如何对一个想法进行初步构思，然后经过多次调整，最终成为一个概念。这种迭代和自我反思的过程实际上在艺术学和设计学中是非常独特的，对于很多景观基础课程学生来说，这也是一种非常新颖的实践方式。这样的练习对于他们理解设计实践的基本原理是非常有建设性的。

在推导出一个概念是如何形成的之后，学生需要通过抽象的绘画

student encouraged to develop his or her own sources of intuition, inspiration, and imagination. Each project brief establishes a framework that allows exploration and pushes students to develop their individual creative processes.”^[6]

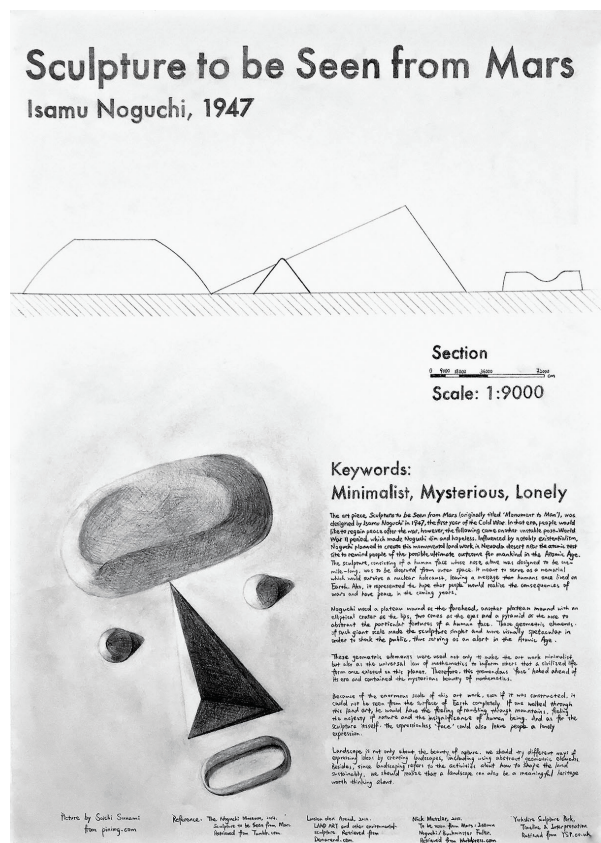
3.1 Study of Art Works

Similar to the previous version, the new foundation landscape design studio started with an analytical study before getting into an actual design project. Each student was asked to study a piece of art work. The collection of art works was selected based on their significance in art history, reflection of cultural development at the time, creative breakthroughs, and innovative ways in the use of forms, materials, and spaces. Such selected collection of art works was seen as a series, for students to expose to a variety of artistic processes and to understand what impacts these art works made in the creative world.

The way students engaged with the study of an art work started with the documentation drawings of the art work in its plan and elevation views. After finding photographs of the art piece in perspective views, students needed to research and figure out the art work's dimensions in reality, in order to develop the scaled drawings of it (Fig. 20).

Students' next task — the most important one — was the research of concept creation. Through an initial study and research, students were aware of the cultural / historic context at the time, and how such a background influenced the artist's creative process. Like landscape design, an artistic process also goes through iterations. Many artists may have a very famous piece of work, but through research students realized the artists often create a number of similar pieces with the same creative trajectory. We may understand the similar works as a series, from which students were to explore and learn the artistic process or creative journey. Even though the ultimate study was only focused on one specific piece of art work, students' findings led them to understand the need to study the whole series in order to comprehend one of the pieces. Such a learning process helped them understand how an idea may be first conceived, then tuned and edited, in multiple times, then finally became a concept. Such iterative and self-reflective processes are in fact very unique in art and design. However, they are very new to many foundation year landscape students as a way of practice, so the concept creation training is very critical to shape students' understanding of the fundamentals of design practice.

After deducing the process of concept creation, students needed to represent their conceptual understanding of the art work by making abstract drawing and model. In their work, students applied what they learned from the concept creation

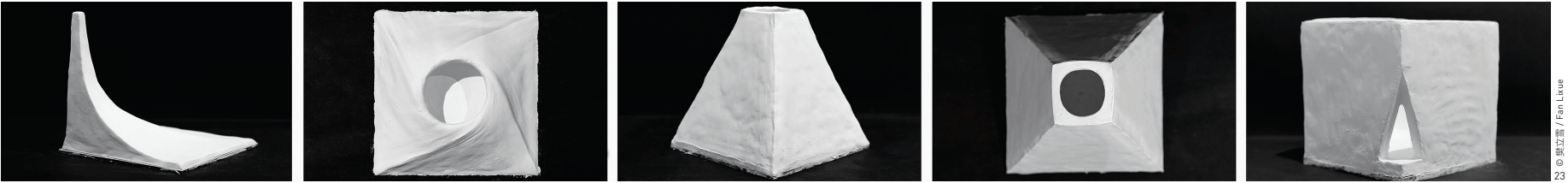




21 © 蕭浩穎 / Siu Kit Wing



22 © 蕭浩穎 / Siu Kit Wing



23 © 樊立雪 / Fan Lixue

和模型来表达他们对艺术作品的概念理解。他们需要运用从概念创作研究中学到的知识，以及从艺术家工作流程中学到的迭代和自我反思过程来完成这项练习（图21~24）。

3.2 露天博物馆设计

这些诠释艺术作品概念的抽象画为学生下一步的学习打下了基础：他们需要设计一个露天博物馆来陈列他们学习的艺术作品。通过抽象绘画的过程，学生对艺术作品进行自我诠释，从而启发他们在景观中设计一段旅程/经历，来引导参观者体验和理解艺术作品。

要把这个概念贯穿到露天博物馆的空间设计中并不容易，但学生们都进行了积极的探索。例如，有学生在为野口勇的作品《从火星上

research, as well as the iterative and self-reflective processes learned from the artist's work flow (Fig. 21 ~ 24).

3.2 Open-Air Museum Design

The abstract drawing exercise laid foundation for students' next step: the design of an open-air museum to display the art work they studied. The making of the abstract drawing became a process for students to develop their own interpretation of the artist's work, helping them introduce a journey or narrative in the landscape to guide visitors to experience and understand the art work.

To realize such a concept in the spatial design for the open-air museum was not straightforward. Here are some good examples. The student who designed an open-air museum for Isamu Noguchi's *Sculpture to be seen from Mars* used landscape design to create an opportunity for visitors to go up front to the art work displayed in the middle of the proposed site, and used the landscape technique of creating elevation difference to allow visitors to view the work from above. Following the Noguchi's creative approach, the student also applied the minimalistic style in the design of the manmade landscape parts (Fig. 25). In another project where the student designed an open-air museum for Olafur Eliasson's *The New York City Waterfall*, the landscape design was intended to illustrate the student's thinking about how waterfalls are viewed, experienced, and interpreted. This student also used the project's spatial design to guide visitors to experience the intellectual pursuit she had when studying the art work (Fig. 26).

4 Impacts and Reflections

The two tracks of the foundation landscape design studio created a significant impact on students' subsequent comprehension

21, 22. 学生萧浩颖研究的是威廉·德·库宁的作品《侧躺的人》。她从最初的研究中得出关键词“触”，并将她对触觉的研究概念反映于图纸和模型之中。

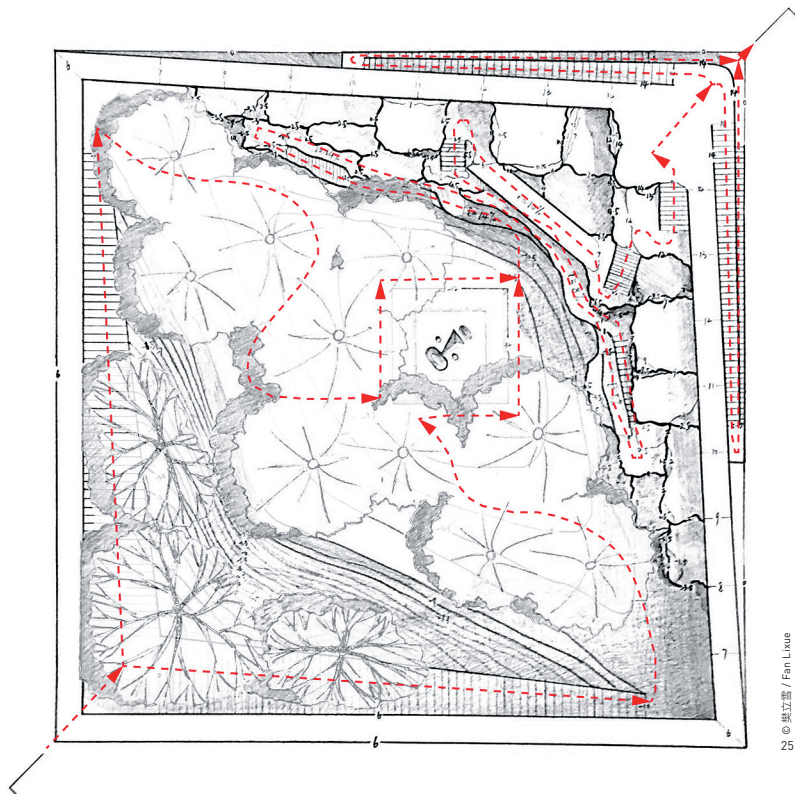
23. 学生樊立雪从野口勇的作品《从火星上看到的雕塑》中学习了极简主义的表现手法。因此，她在概念研究中专注于借助概念模型制作过程来探索什么是极简主义。

21, 22. Student Siu Kit Wing studied Willem de Kooning's *Reclining Figure*. She derived a concept keyword "tactile" from her initial study and dedicated her concept study with drawings and models to represent a sense of touch.

23. Student Fan Lixue learned about the minimalistic approach from Isamu Noguchi's *Sculpture to be seen from Mars*. Hence, in the concept study, she dedicated her focus through the concept model making process to explore what minimalism is.



24 © 常耿家琪 / Chang Gengjiayi



25 © 樊立雪 / Fan Lixue

24. 学生常耿家祺以奥拉富尔·埃利亚松的作品《纽约市瀑布》为研究对象，在概念图中使用了不同的色彩、笔触和纹理来诠释瀑布。
 25. 学生樊立雪设计的露天博物馆平面图
 26. 学生常耿家祺设计的露天博物馆剖面图
24. Student Chang Gengjiaqi studied Olafur Eliasson's *The New York City Waterfall*. She developed ways to use colors, strokes, and textures to describe the waterfall in her concept drawing.
 25. Plan drawing of an open-air museum design, by student Fan Lixue.
 26. Section drawing of an open-air museum design, by student Chang Gengjiaqi.

看到的雕塑》设计露天博物馆时，以景观设计引导参观者走到场地中央的艺术作品面前，还使用了创造高程差异的技巧，使参观者可以从鸟瞰角度观察作品；除此之外，其人造景观部分也延续了艺术家极简主义的这一创作手法（图25）。另外，亦有学生在为奥拉富尔·埃利亚松的作品《纽约市瀑布》设计露天博物馆时，把自己对瀑布是如何被观看、体验和诠释的关注延续到设计之中，希望借由空间设计使参观者体验到其在研究这一艺术作品时的思维过程（图26）。

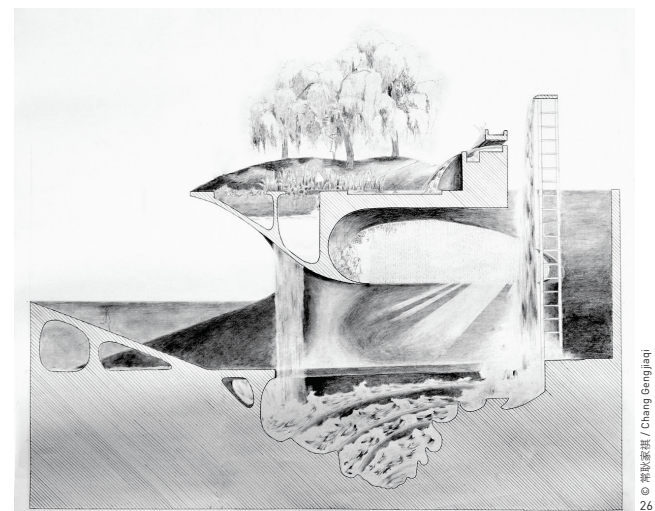
4 影响和反思

景观设计概论课的两种学习轨迹对学生之后对于景观的理解产生了巨大的影响。相比于以模仿和研究经典案例为基础景观设计课的传统景观专业课程，香港大学园境学文学士课程的景观设计概论课旨在将教导景观的系统性和普适于设计领域的创意思维逻辑用作启蒙教学。学生们学习的并不是景观设计的既有定义；相反，他们可以运用习得的逻辑思维和方法，通过设计课的练习自己去探索景观的定义。在该课程的毕业生步入园境学硕士课程后开展硕士论文课题时，这种教学模式带来的效果十分明显：他们往往会选择一些挑战传统景观设计学科边界的课题或研究范围，并将其他相关学科的知识融入到自己的景观项目之中。他们展示了自己作为思考者和创新者的知识能力，这正是下一代景观设计学科领头人应当具备的素质。LAF

of landscape. Compared with landscape programs that start the foundation year studio with studying landscape masterpieces via tracing-over exercises, the foundation landscape design studio of the HKU BA(LS) Program aims at teaching more about the systematic characters of landscape and the creative concept logic universal to many design disciplines. Students are not given a definite answer of what Landscape Architecture is, instead, they are introduced to the logics of thinking and means of seeing, through studio exercises, to explore what landscape is by themselves. It is quite reflective in how BA(LS) graduates develop their thesis topics when they get into the Master of Landscape Architecture (MLA) Program: when preparing their thesis projects, they tend to select topics or scopes that are challenging the conventional territory of Landscape Architecture, integrating knowledge and expertise from allied disciplines into their own landscape projects. The intellectual capacities they present as thinkers and innovators are exactly the qualities that the next generation of Landscape Architecture leaders should have. LAF

REFERENCES

- [1] Balmori, D. (2014). Chapter 4: Contemporary Landscape Architects and Landscape Artists. In Author (Ed.), *Drawing and Reinventing Landscape* (pp.81-111). Chichester: John Wiley & Sons Inc.
- [2] Rovira, R. (2012). Exactness and Abstraction in Landscape Architectural Reproduction. In N. Amoroso (Ed.), *Representing Landscapes: A Visual Collection of Landscape Architectural Drawings* (p. 81). Oxon; New York: Routledge.
- [3] Sullivan, C. (2008). Observation and the Analytical Representation of Space. In M. Treib (Ed.), *Representing Landscape Architecture* (pp.64-65). New York: Taylor & Francis.
- [4] Doane, M. A. (2002). Chapter 2: Temporality, Storage, Legibility: Freud, Marey, and the Cinema. In Author (Ed.), *The Emergence of Cinematic Time: Modernity, Contingency, the Archive* (p. 60). Cambridge (Mass.): Harvard University Press.
- [5] Allen, S. (1999). Infrastructural Urbanism. In Author (Ed.), *Points + Lines: Diagrams and Projects for the City* (pp. 55-57). New York: Princeton Architectural Press.
- [6] Sullivan, C. (2012). The Art of Representing Landscapes. In N. Amoroso (Ed.), *Representing Landscapes: A Visual Collection of Landscape Architectural Drawings* (p. 175). Oxon; New York: Routledge.



26 © 常耿家祺 / Chang Gengjiaqi